Ο ρόλος των ανταγωνιστών αλδοστερόνης στη ΧΝΝ

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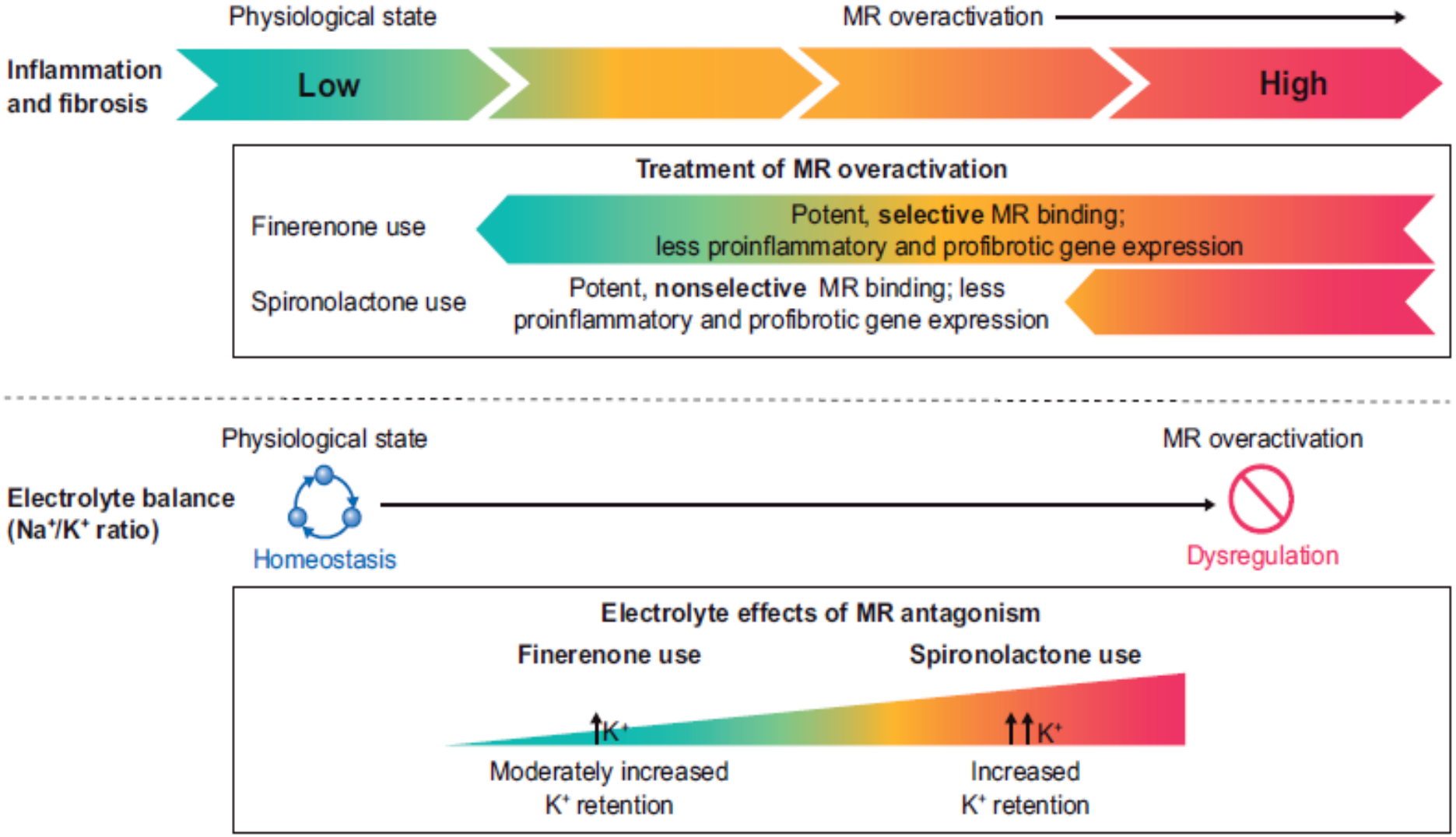
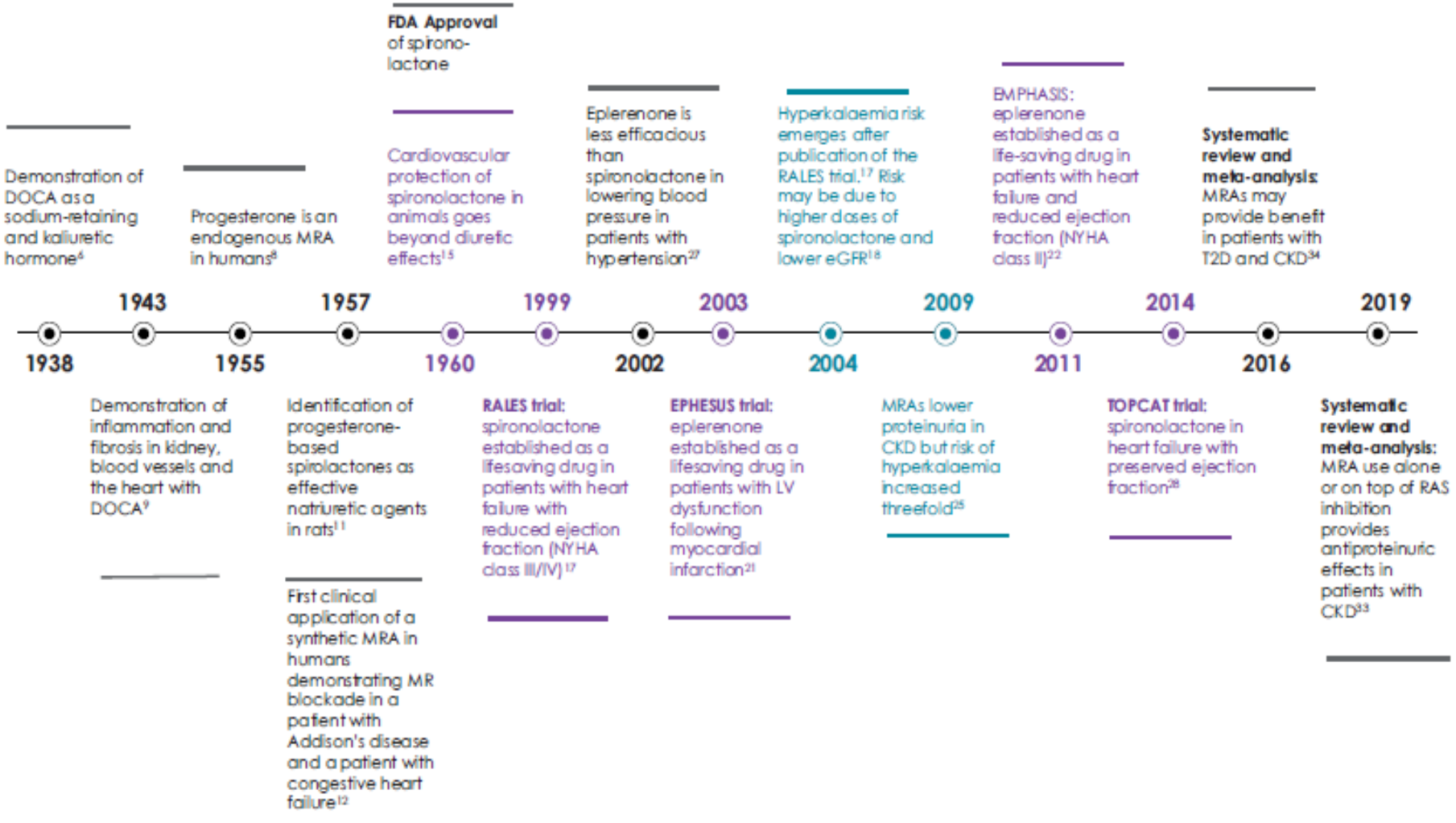
Safety and efficacy of steroidal MRAs in early- and late-stage CKD

MR overactivation in cardiorenal disease



Agarwal R, et al. Nephrol Dial Transplant 2022; 37:1014-1023.

Key studies in the history of MRAs



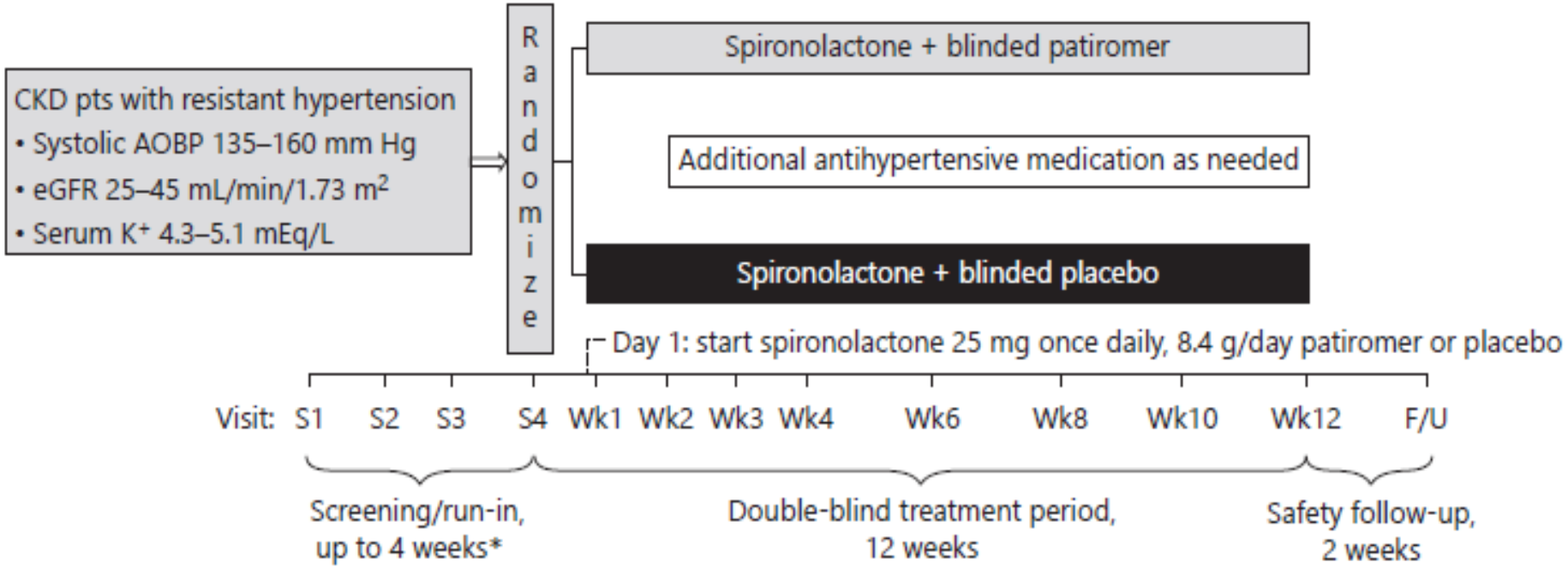
Agarwal R, et al. Eur Heart J 2021;42:152-161

Aldosterone antagonists in addition to renin angiotensin system antagonists for preventing the progression of chronic kidney disease (Review)

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	No. of participants (studies)	Certainty of the evidence (GRADE)
	Risk with placebo or standard care	Risk with aldosterone antagonist			
Kidney failure	0 per 1,000	0 per 1,000 (0 to 0)	RR 3.00 (0.33 to 27.65)	84 (2)	⊕⊝⊝⊝ VERY LOW [1, 2]
Hyperkalaemia	25 per 1,000	55 per 1,000 (37 to 81)	RR 2.17 (1.47 to 3.22)	3001 (17)	⊕⊕⊕⊝ MODERATE [3]
Death	14 per 1,000	8 per 1,000 (1 to 50)	RR 0.58 (0.10 to 3.50)	421 (3)	⊕⊕⊝⊝ LOW [2, 4]
Cardiovascular events	32 per 1,000	31 per 1,000 (8 to 115)	RR 0.95 (0.26 to 3.56)	1067 (3)	⊕⊕⊝⊝ LOW [2, 5]
Doubling serum creatinine	83 per 1,000	107 per 1,000 (57 to 202)	RR 1.30 (0.69 to 2.44)	875 (2)	⊕⊕⊝⊝ LOW [2, 5]
AKI	30 per 1,000	61 per 1,000 (31 to 119)	RR 2.04 (1.05 to 3.97)	1446 (5)	⊕⊕⊕⊝ MODERATE [6]
Proteinuria	The SMD was 0.51 lower with aldosterone antagonists (0.82 lower to 0.20 lower) than placebo or standard care		-	1193 (14)	⊕⊝⊝⊝ VERY LOW [7, 8, 9, 10]
eGFR (mL/min/1.73 m^2)	The mean eGFR was 3.00 mL/min/1.73 m^2 lower with aldosterone antagonists (5.51 lower to 0.49 lower) than placebo or standard care		-	1144 (12)	⊕⊕⊝⊝ LOW [2, 11]

Chung EY, et al. Cochrane Database Syst Rev. 2020;10:CD007004.

AMBER trial



Agarwal R, et al. Lancet 2019; 94:1540-1550

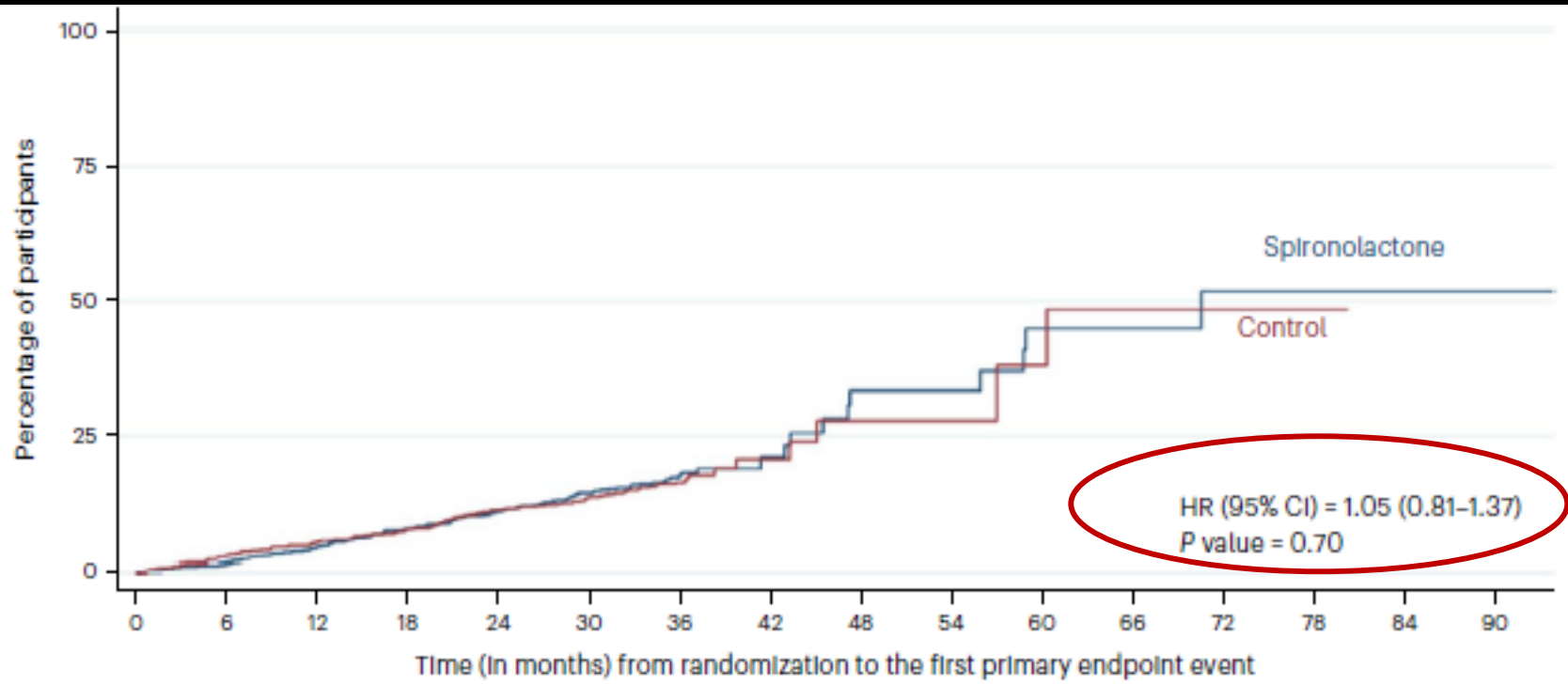
AMBER trial

	Spironolactone and placebo (n=148)	Spironolactone and patiromer (n=147)	Difference between groups (95% CI)	p value for between-group difference
Primary endpoint				
Patients who remained on spironolactone at week 12	98 (66%)	126 (86%)	19·5% (10·0 to 29·0)	<0·0001
Secondary endpoint				
Systolic automated office blood pressure (mm Hg)	..	..	–1·0* (–4·4 to 2·4)	0·58
Baseline	144·9 (0·6)	143·3 (0·5)	..	..
Week 12	133·9 (1·4)	131·9 (1·2)	..	..
Change from baseline in systolic automated office blood pressure (mm Hg), least squares mean (95% CI)	–10·8 (–13·2 to –8·3)†	–11·7 (–14·1 to –9·3)‡	..	..
p value for change from baseline	<0·0001	<0·0001	..	..
Spironolactone dose				
Cumulative dose of spironolactone (mg)	2580·7 (95·8)	2942·3 (80·1)	384·7* (140·4 to 629·0)	0·0021

Data are n (%) or mean (SE), unless otherwise indicated. *Least squares mean. †n=141. ‡n=144.

Agarwal R, et al. Lancet 2019; 94:1540-1550

BARACK-D trial



Spironolactone																
At risk	661	588	554	519	491	455	283	36	25	19	12	11	7	5	3	1
Censored	16	78	96	111	122	139	294	538	544	550	554	555	558	560	562	564
Events	0	27	27	47	64	83	100	103	108	108	111	111	112	112	112	112
Control																
At risk	687	637	603	563	535	506	284	28	14	8	6	3	2	1	0	0
Censored	8	38	56	81	88	102	309	560	560	578	579	581	582	582	584	584
Events	0	20	36	51	72	87	102	107	109	109	110	111	111	111	111	111

Hobbs FDR, et al. Nat Med 2024;30(12):3634-3645.

ALCHEMIST trial

	All events (%)	Spironolactone group (n=320)			Placebo group (n=324)			Hazard ratio (95% CI)*
		Events (%)	Patient-years	Events per 100 patient-years (95% CI)	Events (%)	Patient-years	Events per 100 patient-years (95% CI)	
Primary composite endpoint (expanded adjudicated major cardiovascular event)†	157 (24%)	78 (24%)	731	10·66 (8·54–13·31)	79 (24%)	738	10·70 (8·59–13·35)	1·00 (0·73–1·36)
Individual components of the primary endpoint								
Fatal cardiovascular event	107 (17%)	59 (18%)	774	7·62 (5·91–9·84)	48 (15%)	793	6·05 (4·56–8·03)	1·26 (0·86–1·85)
Non-fatal major cardiovascular event	88 (14%)	36 (11%)	731	4·92 (3·55–6·82)	52 (16%)	738	7·05 (5·37–9·25)	0·69 (0·45–1·05)
Non-fatal stroke	21 (3%)	8 (3%)	766	1·04 (0·52–2·09)	13 (4%)	777	1·67 (0·97–2·88)	0·62 (0·26–1·51)
Hospitalisation for heart failure	24 (4%)	7 (2%)	766	0·91 (0·44–1·92)	17 (5%)	772	2·20 (1·37–3·54)	0·41 (0·17–1·00)
Non-fatal myocardial infarction	18 (3%)	8 (3%)	767	1·04 (0·52–2·08)	10 (3%)	783	1·28 (0·69–2·37)	0·80 (0·31–2·03)
Acute coronary syndrome	33 (5%)	18 (6%)	751	2·40 (1·51–3·80)	15 (5%)	782	1·92 (1·16–3·18)	1·24 (0·63–2·47)
Recurrent events of non-fatal major cardiovascular events‡	118	54	742	7·28 (5·58–9·51)	64	742	8·62 (6·75–11·02)	0·88 (0·54–1·42)

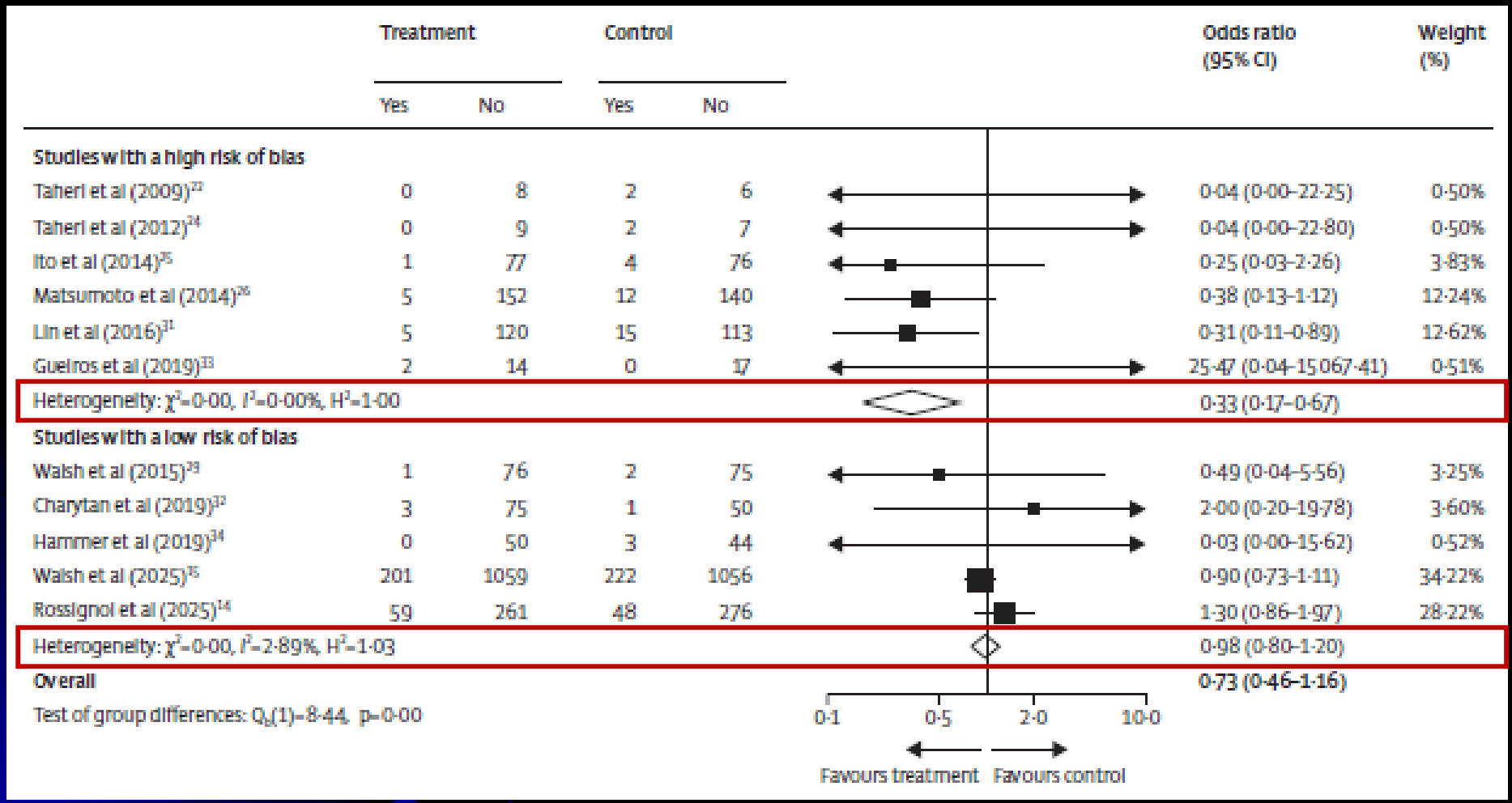
Rossignol P, et al. Lancet. 2025;406(10504):705-718.

ACHIEVE trial

	Spironolactone (n=1260)		Placebo (n=1278)		Hazard ratio (95% CI)
	Patients (%) or number of events	Events per 100 patient-years	Patients (%) or number of events	Events per 100 patient-years	
Primary outcome					
Cardiovascular death or hospitalisation for heart failure	258 (20·5%)	10·46	276 (21·6%)	11·33	0·92 (0·78–1·09); p=0·35
Secondary outcome					
Death					
Cardiovascular	201 (16·0%)	7·83	222 (17·4%)	8·72	0·89 (0·74–1·08)
Cardiac	123 (9·8%)	4·79	149 (11·7%)	5·86	0·81 (0·64–1·03)
Vascular	78 (6·2%)	3·04	73 (5·7%)	2·87	1·07 (0·77–1·47)
Non-cardiovascular	225 (17·9%)	..	220 (17·2%)	..	..
All causes	426 (33·8%)	16·60	442 (34·6%)	17·37	0·95 (0·83–1·09)
Hospitalisation for heart failure					
First hospitalisation for heart failure	87 (6·9%)	3·53	89 (7·0%)	3·65	0·97 (0·72–1·30)
Total hospitalisations for heart failure	126 events	5·06	111 events	4·53	1·14 (0·83–1·57)
Hospitalisation for any cause					
First hospitalisation for any cause	728 (57·8%)	44·6	748 (58·5%)	47·11	0·96 (0·87–1·06)
Total hospitalisations for any cause	1937 events	87·5	1945 events	88·8	1·00 (0·90–1·11)
Total severe hyperkalaemia	123 events	4·97	80 events	3·23	1·54 (1·07–2·22)

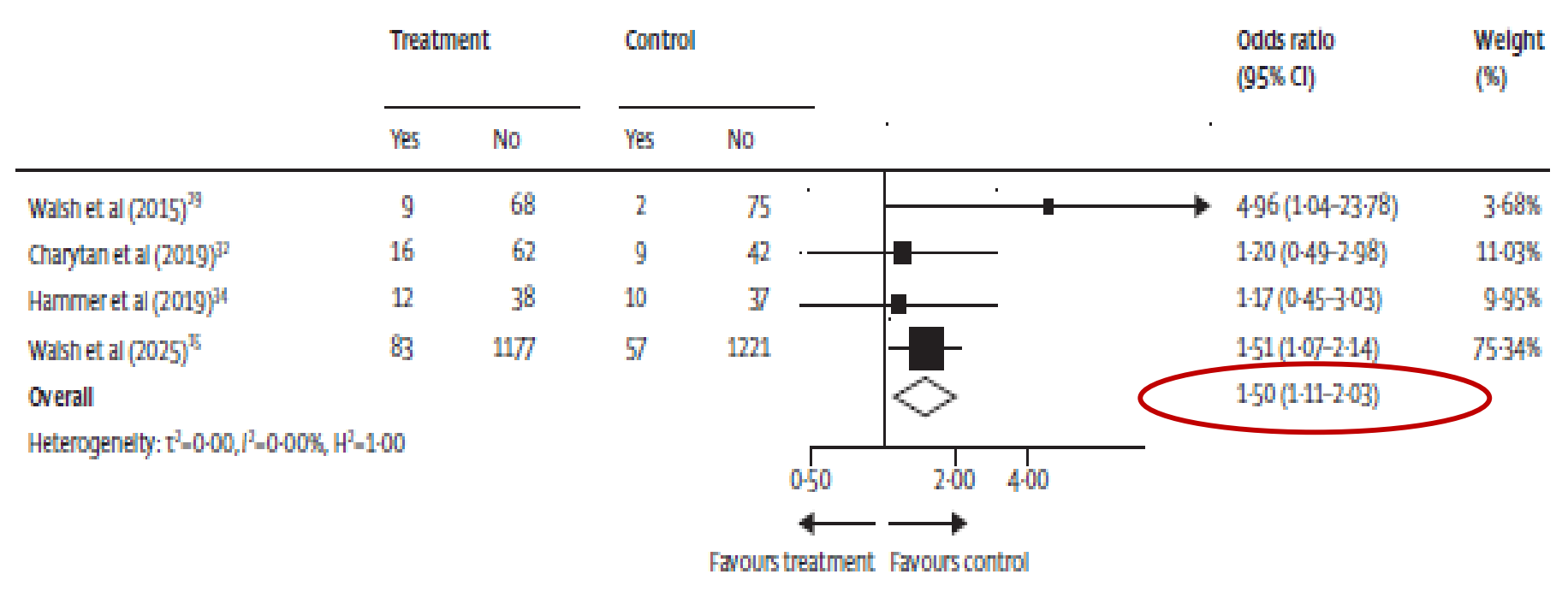
Walsh M, et al. Lancet. 2025;406(10504):695-704.

Safety and efficacy of steroidal mineralocorticoid receptor antagonists in patients with kidney failure requiring dialysis: a systematic review and meta-analysis of randomised controlled trials



Pyne L, et al. Lancet. 2025;406(10505):811-820.

Safety and efficacy of steroidal mineralocorticoid receptor antagonists in patients with kidney failure requiring dialysis: a systematic review and meta-analysis of randomised controlled trials

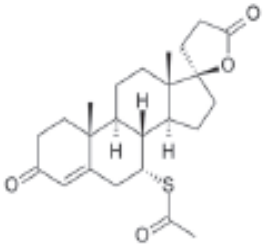


Pyne L, et al. Lancet. 2025;406(10505):811-820.

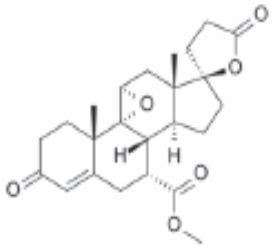
Non-steroidal MRAs

Chemical structure

Steroidal MRAs
(aldosterone antagonists)

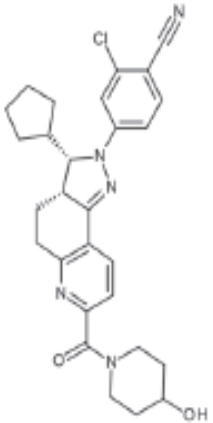


Spironolactone

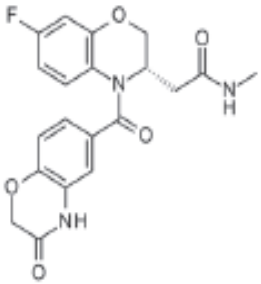


Eplerenone

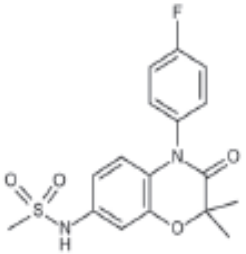
Non-steroidal MRAs



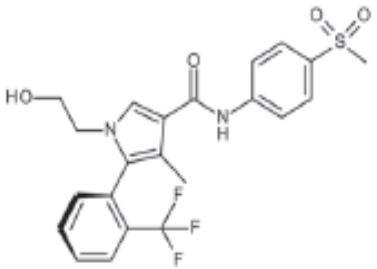
KBP-5074
(Phase II)



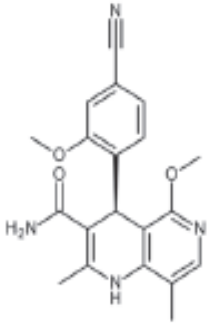
AZD9977
(Phase II)



Apararenone
MT-3995
(Phase II)



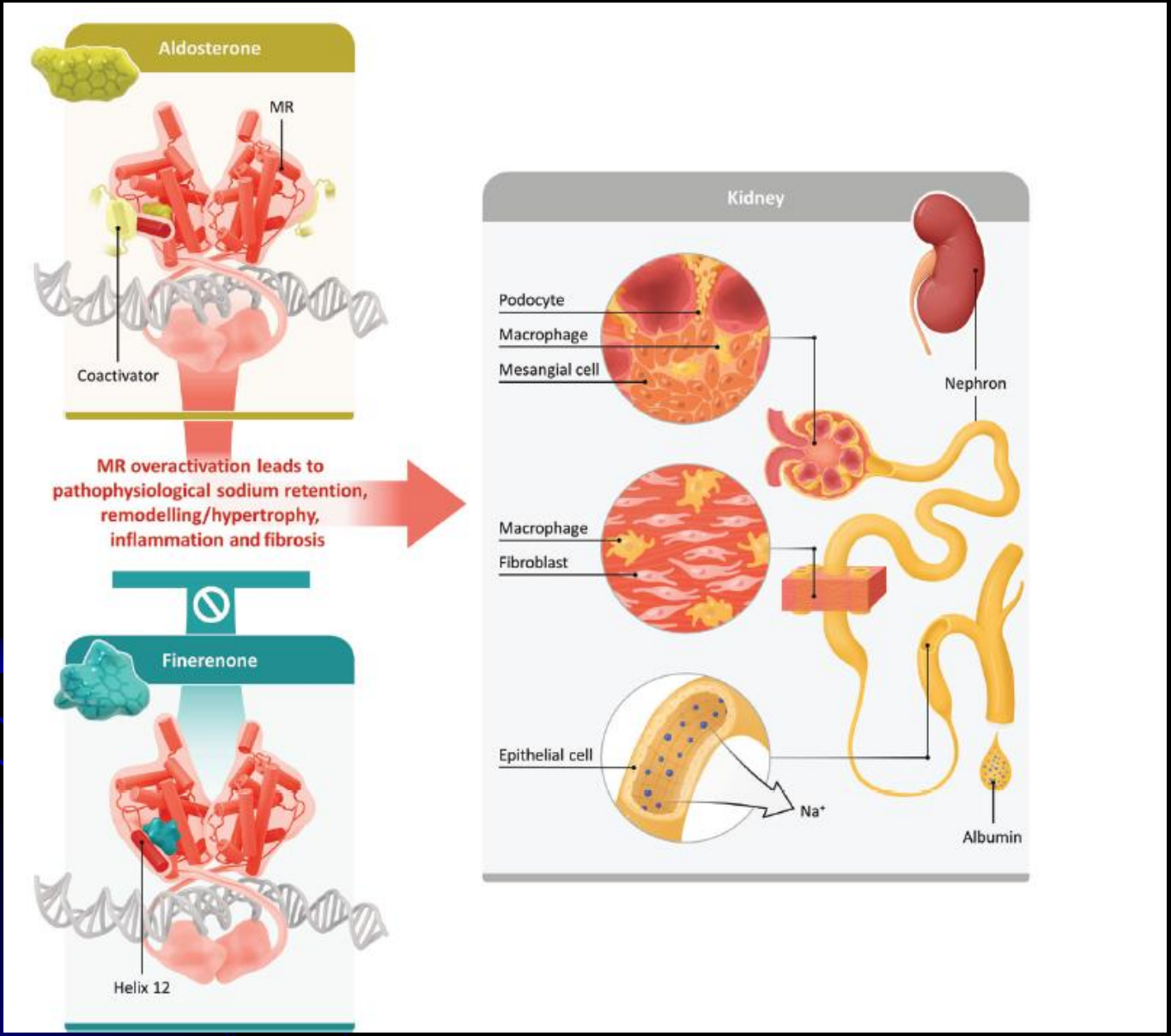
Esaxerenone
CS-3150
(launched in Japan)



Finerenone
BAY 94-8862
(launched in the United States)

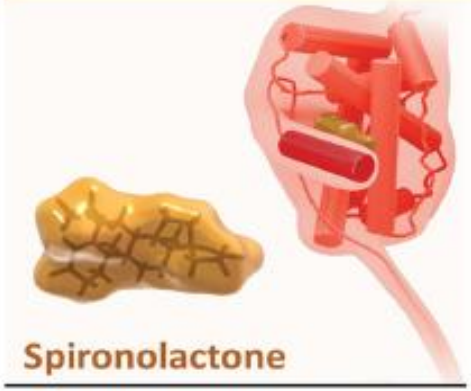
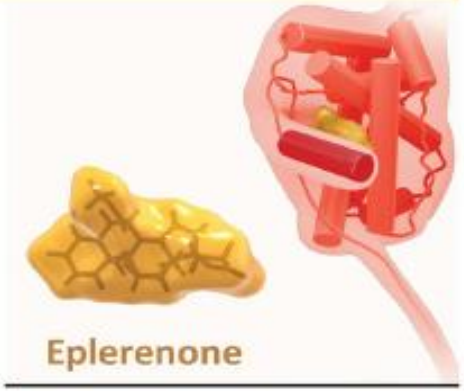
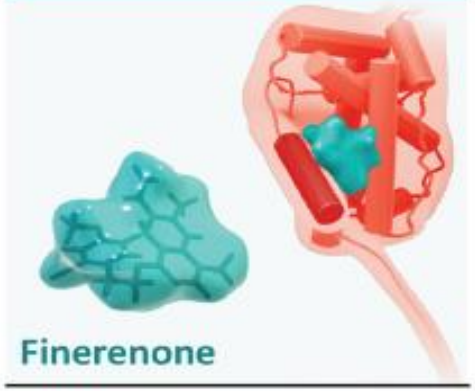
Kintscher U, et al. Br J Pharmacol. 2022;179:3220-3234.

Finerenone: mechanism of action



Kintscher U, et al. Br J Pharmacol. 2022;179:3220-3234.

Key differences between steroidal MRAs and finerenone

	Steroidal MRAs		Finerenone
	 Spironolactone	 Eplerenone	 Finerenone
Structural properties	Flat (steroidal)	Flat (steroidal)	Bulky (non-steroidal)
Potency to MR	+++	+	+++
Selectivity to MR	+	++	+++
CNS penetration	+	+	–
Sexual side effects	++	(+)	–
Half-life	>20 h**	4–6 h**	2–3 h*
Active metabolites	++	–	–
Effect on BP	+++	++	+

Kintscher U, et al. Br J Pharmacol. 2022;179:3220-3234.

Preclinical studies with finerenone

	Steroidal MRAs		Nonsteroidal finerenone
Mode of MR antagonism	*Spironolactone* Potent and unselective (first generation) Passive	*Eplerenone* Less potent and more selective than spironolactone (second generation)	*Finerenone* Potent and selective[59] Bulky and passive[61]
Tissue distribution (in rodents)	*Spironolactone* Kidney > heart[63]	*Eplerenone* Kidney > heart[64]	*Finerenone*: balanced kidney–heart[62]
Pharmacokinetics	*Spironolactone*: prodrug with multiple active metabolites with long half-lives[65] *Eplerenone*: no active metabolites; half-life 4–6 h[64]		*Finerenone*: no active metabolites and short half-life[66,67]
Effect on cofactor recruitment in absence of aldosterone *in vitro*[61,68]	*Spironolactone and eplerenone*: partial agonistic cofactor recruitment		*Finerenone*: inverse agonist (inhibits cofactor binding in the absence of aldosterone)
Effect on cofactor recruitment in the presence of aldosterone *in vitro*	*Spironolactone and eplerenone*: inhibition of cofactor recruitment[68]		*Finerenone*: more potent and efficacious than eplerenone in blocking MR cofactor binding and inducing corepressor binding[68]
Effect on mutated (S810L) MR *in vitro*[61]	*Spironolactone and eplerenone*: agonists		*Finerenone*: antagonist
Effect on inflammation and fibrosis in mouse model of cardiac fibrosis[68]	*Eplerenone* (at equinatriuretic dose to finerenone): less significant effects on inflammation and fibrosis		*Finerenone* (at equinatriuretic dose to eplerenone): strong inhibition of inflammation and fibrosis
Effect on renal inflammation and fibrosis in a DOCA–salt rat model of CKD[62]	*Eplerenone* (at equinatriuretic dose to finerenone): significant BP reduction; less efficacious proteinuria and renal injury reduction		*Finerenone* (at equinatriuretic dose to eplerenone): significant systolic BP reduction only at highest dosage; greater protection from cardiac and renal injury and structural remodelling; stronger inhibition of renal expression of pro-inflammatory and pro-fibrotic markers

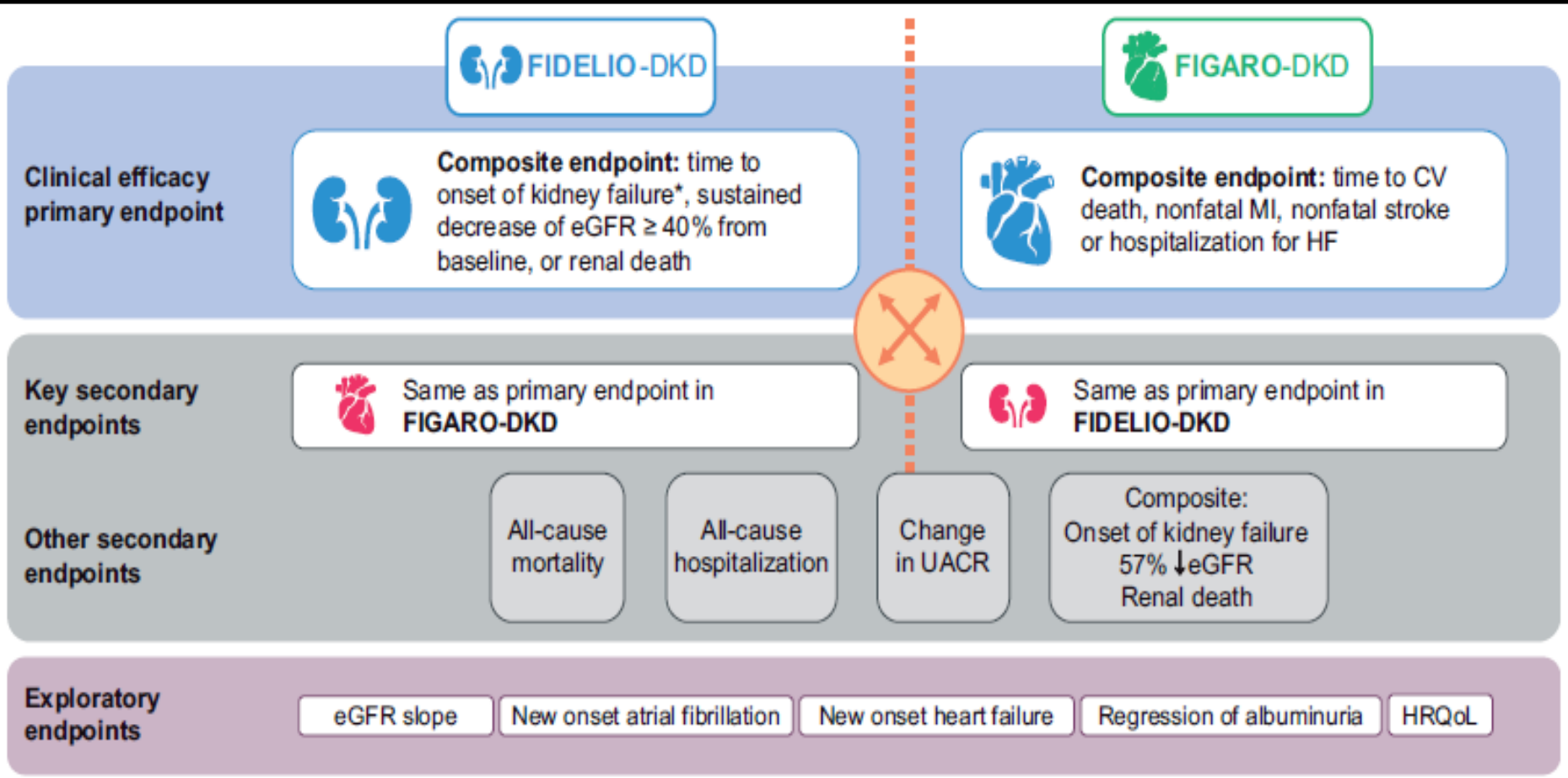
Agarwal R, et al. Eur Heart J 2021;42:152-161

Phase II RCTs with finerenone

Parameter	ARTS[34]	ARTS-HF[33]	ARTS-DN[32]
Year	2013	2016	2015
Study population	HFrEF and stage 2 CKD in Part A or stage 3 CKD in Part B	HFrEF and CKD and/or T2DM	T2DM and high or very high albuminuria in patients already treated with an ACEI/ARB
N	Part A: 65 patients Part B: 392 patients	1,066 patients	823 patients
Active-treatment	Part A: finerenone 2.5, 5, or 10 mg/day Part B: finerenone 2.5, 5, or 10 mg/day or 5 mg twice daily	Finerenone 2.5, 5, 7.5, 10, or 15 mg/day (titrated up to 5, 10, 15, 20, or 20 mg/day, respectively on Day 30)	Finerenone 1.25, 2.5, 5, 7.5, 10, 15, or 20 mg once daily
Comparators	Part B: placebo or active treatment with spironolactone (25 or 50 mg/day)	Eplerenone (25 mg every other day, titrated up to 25/day on Day 30 and up to 50 mg/day on Day 60)	Placebo
Follow-up	28 days	90 days	90 days
Primary outcome	Change in sK during follow-up	Percentage of patients with >30% decline in NT-proBNP during follow-up	Change in UACR
Main results	• Significantly smaller increases in sK levels with finerenone than with spironolactone • Finerenone was at least as effective as spironolactone in lowering NT-proBNP levels and albuminuria	• Finerenone was equally effective with eplerenone in causing >30% reduction in NT-proBNP levels • The prespecified exploratory endpoint of all-cause death, cardiovascular hospitalization, or acute worsening HF was numerically less common with finerenone than with eplerenone	• Dose-dependent reduction in UACR. • Permanent drug discontinuation due to hyperkalemia not seen with placebo or finerenone 10 mg/day. • Incidence rates of hyperkalemia leading to permanent drug discontinuation: 2.1%, 3.2%, and 1.7% in the finerenone 7.5-, 15-, and 20-mg/day groups, respectively.

Georgianos PI & Agarwal R. Am J Hypertens 2023;36(3):135-143.

Phase III clinical-trial program



Agarwal R, et al. Nephrol Dial Transplant 2022; 37:1014-1023.

FIDELITY combined analysis

Inclusion/exclusion

- ✓ T2D + CKD
  eGFR ≥25 mL/min/1.73m²
  Serum [K⁺] ≤ 4.8 mmol/L
  Maximum tolerated labeled dose of RAS
- ✗ HFrEF (NYHA class II-IV)

Protocol

Outcomes

CV composite:
Time to CV death, non- fatal MI, non-fatal stroke, or HHF

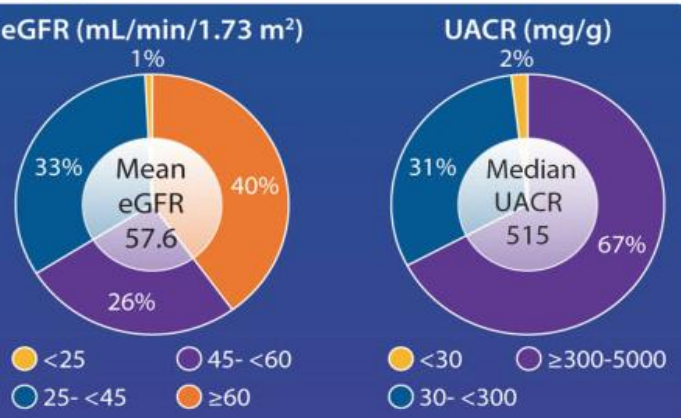
≥57% kidney composite:
Time to kidney failure, sustained ≥57% decrease in eGFR, or renal death

Baseline characteristics

Median age: 65 years
♂ 70% ♀ 30%

RAS inhibitors: 99.8%
Statins: 72.2%

HbA1c: 7.7%
BP: 137/76 mmHg
Prior HF: 7.7%



Few hyperkalemia-related discontinuations occurred

Results

	HR (95% CI)	p-value	Risk ↓
Endpoint CV composite	0.86 (0.78 – 0.95)	0.0018	14%
HHF	0.78 (0.66 – 0.92)	0.0030	22%
Kidney composite	0.77 (0.67 – 0.88)	0.0002	23%
Dialysis	0.80 (0.64 – 0.99)	0.040	20%

Agarwal R, et al. Eur Heart J 2022;43(6):474-484.

Effects of canagliflozin versus finerenone on cardiorenal outcomes: exploratory *post hoc* analyses from FIDELIO-DKD compared to reported CREDENCE results

Background

Both finerenone and canagliflozin reduce cardiovascular and renal risk in patients with type 2 diabetes and CKD with albuminuria

≠ There are key differences in trial inclusion/exclusion criteria and endpoint definitions in CREDENCE and FIDELIO-DKD

Methods

Participants in two RCTs:
- CREDENCE (canagliflozin)
- FIDELIO-DKD (finerenone)

Restricted to participants who met inclusion criteria for CREDENCE:
- UACR >300–5000 mg/g
- eGFR 30–<90 ml/min/1.73 m^2

Endpoints:
- Composite cardiorenal
- Kidney-specific

Results

N = 4619 met 'CREDENCE-LIKE' criteria

Finerenone: 2291/4619 (49.6%)
Placebo: 2328/4619 (50.4%)

Treatment effects of canagliflozin and finerenone assessed and compared in CREDENCE and 'CREDENCE-LIKE' FIDELIO-DKD subgroup

	FIDELIO-DKD 'CREDENCE-LIKE'	CREDENCE
Composite cardiorenal	HR 0.74 (95% CI 0.63–0.87)	HR 0.70 (95% CI 0.59–0.82)
Kidney-specific	HR 0.69 (95% CI 0.57–0.84)	HR 0.66 (95% CI 0.53–0.81)

Cox regression: hazard ratio (HR) and (95% CI)

Conclusion

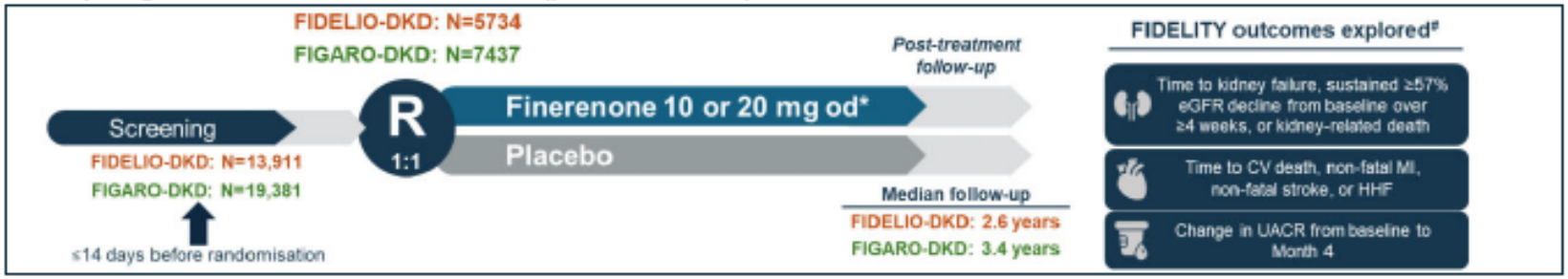
After accounting for trial differences, both the SGLT-2i canagliflozin and the nonsteroidal MRA finænone are similarly effective in patients with type 2 diabetes and CKD with very high albuminuria in reducing the risk of cardiorenal outcomes.

Agarwal R, et al. Nephrol Dial Transplant 2022; 37:1261-69.

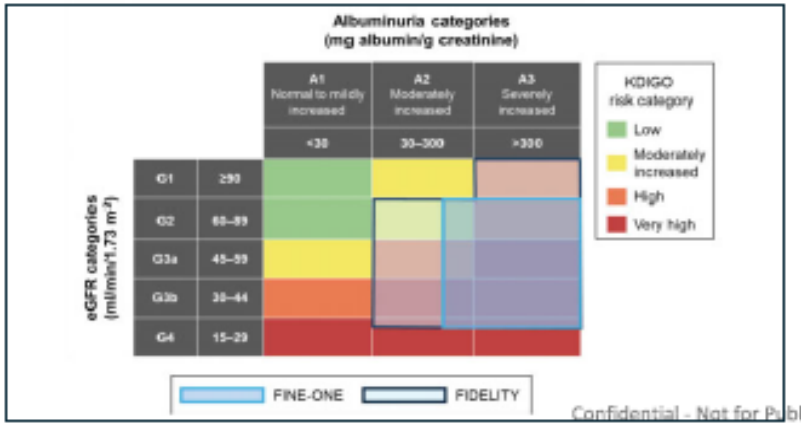
Finerenone in Type 1 Diabetes and Chronic Kidney Disease

A. Study design for FINE-ONE

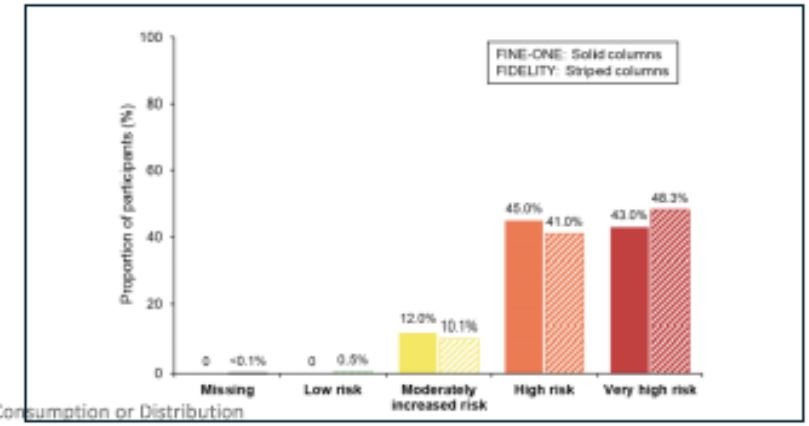
B. Study designs for FIDELIO-DKD and FIGARO-DKD (pooled in FIDELITY)



C. FINE-ONE and FIDELITY CKD inclusion criteria by KDIGO risk category

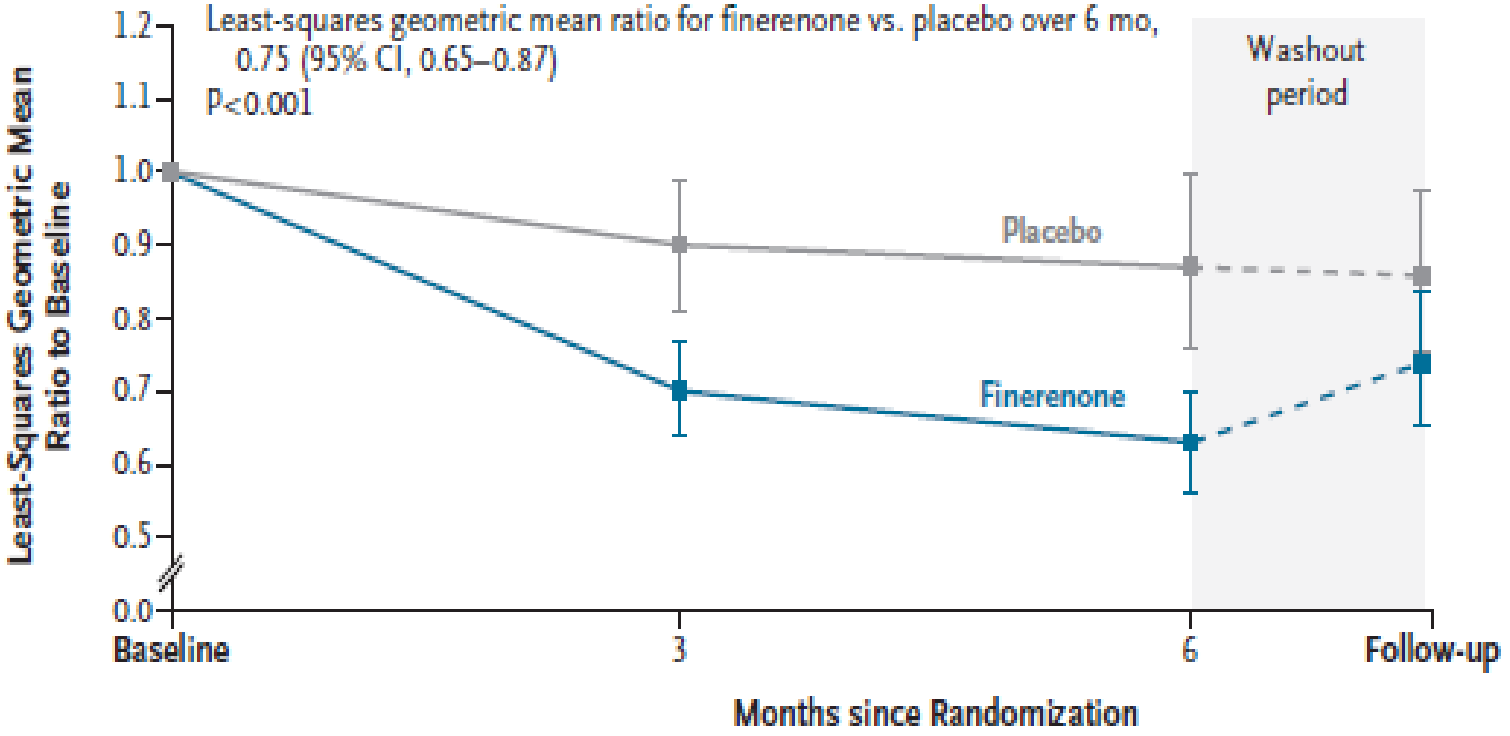


D. FINE-ONE and FIDELITY participants by KDIGO risk category



Heerspink HJL, Nephrol Dial Transplant. 2026;41(3):556-565.

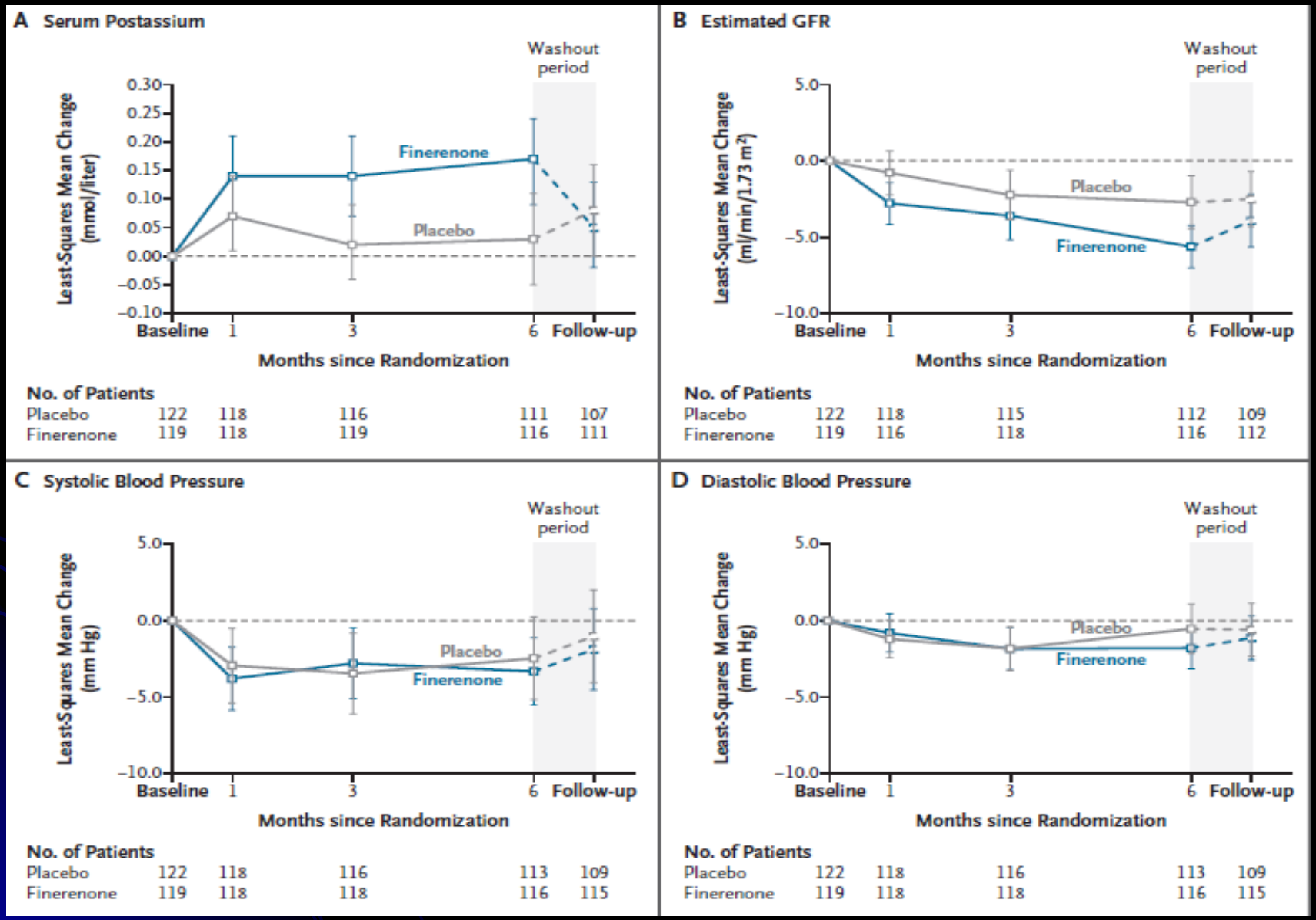
Finerenone in Type 1 Diabetes and Chronic Kidney Disease



No. of Patients				
Placebo	122	122	122	106
Finerenone	120	120	120	114
Least-Squares Geometric Mean Percentage Difference vs. Placebo		21	28	14

Heerspink HJL, N Engl J Med. 2026;394(10):947-957.

Finerenone in Type 1 Diabetes and Chronic Kidney Disease



Heerspink HJL, N Engl J Med. 2026;394(10):947-957.

Design and baseline characteristics of the FIND-CKD trial testing finerenone in non-diabetic CKD

Focus was to describe the trial design and baseline characteristics of participants recruited to the FIND-CKD trial.

Methods

CKD without diabetes
eGFR ≥25 – <90 ml/min/1.73 m² and UACR ≥200 – ≤3500 mg/g

Finerenone 10 or 20 mg vs placebo

Primary endpoint:
Mean annual rate of change in eGFR from baseline to month 32

Secondary endpoint:
Cardiorenal, kidney and cardiovascular composite outcomes

Results

N=1584 randomized

Mean eGFR
46.7
ml/min/1.73 m²

Median UACR
818.9
mg/g

Cause of kidney disease
Hypertensive/ischaemic 29.0%
IgA nephropathy 26.3%
FSGS 13.6%

Cardiovascular history
Hypertension 88.1%
Atherosclerotic CVD 11.9%
Heart failure 2.2%

Concomitant medications
ACEi/ARB 99.8%
SGLT2 inhibitor 16.9%
Diuretic 17.8%

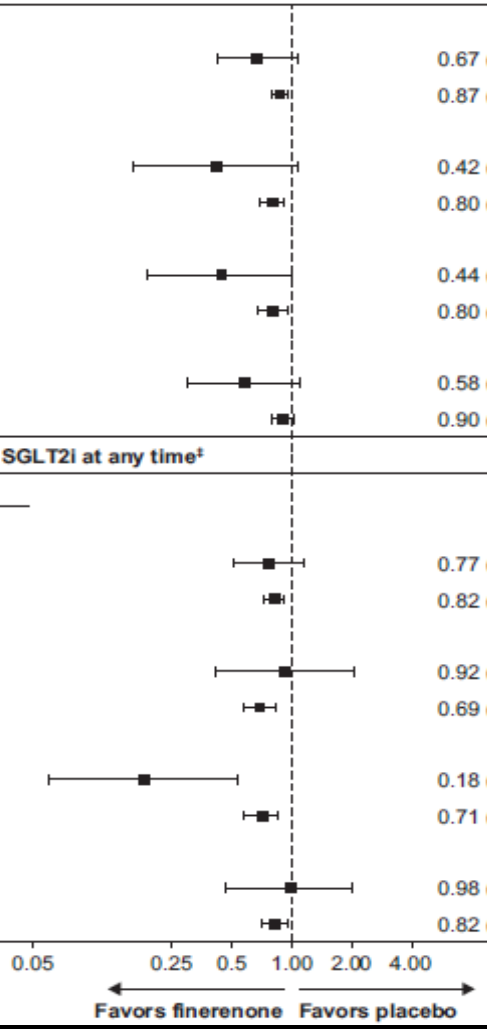
Heerspink, H. J. L. *et al.*
NDT (2024)
@NDTSocial

FIND-CKD is the first phase 3 trial of finerenone in patients with CKD of non-diabetic aetiology and seeks to expand the role of finerenone for kidney protection beyond type 2 diabetes.

Potential additive benefits with combination therapy

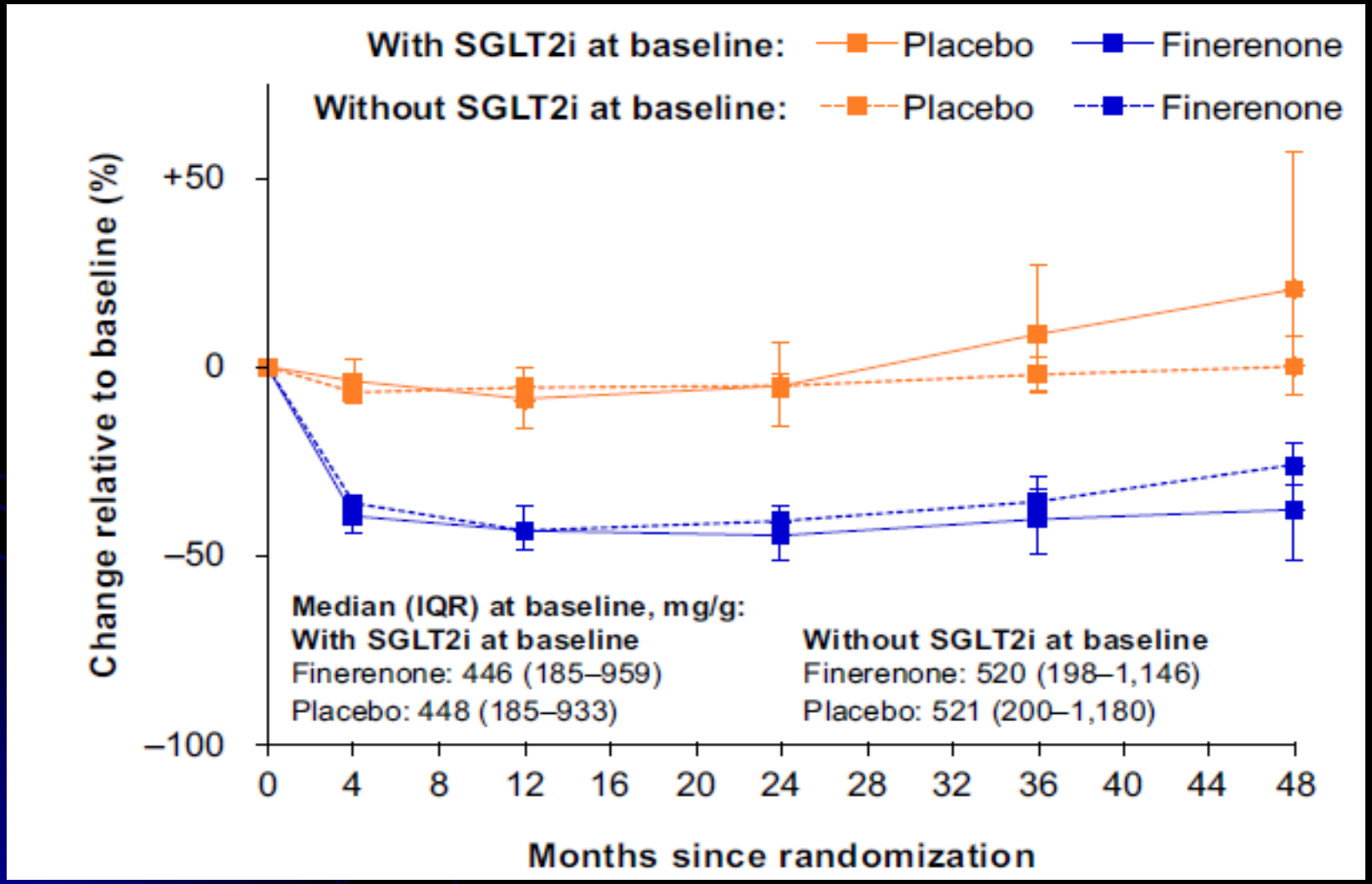
FIDELITY data: subgroup analysis by SGLT2i use at baseline

	Finerenone	Placebo	Finerenone	Placebo	HR (95% CI)	$P_{interaction}$
	n/*N* (%)		*n* per 100 PY			
Analysis for outcomes in patients receiving/not receiving an SGLT2i at baseline						
Cardiovascular composite						
SGLT2i at baseline	39/438 (8.9)	52/439 (11.8)	2.95	4.08	0.67 (0.42–1.07)*	0.46†
No SGLT2i at baseline	786/6,081 (12.9)	887/6,068 (14.6)	4.44	5.08	0.87 (0.79–0.96)*	
Kidney composite						
SGLT2i at baseline	9/438 (2.1)	17/439 (3.9)	0.70	1.37	0.42 (0.16–1.08)*	0.29†
No SGLT2i at baseline	351/6,081 (5.8)	448/6,068 (7.4)	2.06	2.64	0.80 (0.69–0.92)*	
Hospitalization for heart failure						
SGLT2i at baseline	10/438 (2.3)	22/439 (5.0)	0.74	1.68	0.44 (0.19–0.99)*	0.18†
No SGLT2i at baseline	246/6,081 (4.0)	303/6,068 (5.0)	1.35	1.68	0.80 (0.68–0.95)*	
All-cause death						
SGLT2i at baseline	20/438 (4.6)	30/439 (6.8)	1.46	2.23	0.58 (0.30–1.10)*	0.24†
No SGLT2i at baseline	532/6,081 (8.7)	584/6,068 (9.6)	2.86	3.16	0.90 (0.80–1.02)*	
On-treatment period – Time-varying analyses for outcomes in patients receiving/not receiving an SGLT2i at any time‡						
	n		*n* per 100 PY			
Cardiovascular composite						
SGLT2i use	41	58	2.40	3.20	0.77 (0.51–1.15)§	0.77§
No SGLT2i use	579	700	3.83	4.69	0.82 (0.73–0.91)§	
Kidney composite						
SGLT2i use	11	13	0.63	0.70	0.92 (0.41–2.08)§	0.50§
No SGLT2i use	213	312	1.40	2.06	0.69 (0.58–0.83)§	
Hospitalization for heart failure						
SGLT2i use	4	23	0.23	1.24	0.18 (0.06–0.53)§	0.015§
No SGLT2i use	175	248	1.14	1.62	0.71 (0.58–0.86)§	
All-cause death						
SGLT2i use	14	15	0.79	0.80	0.98 (0.47–2.03)§	0.64§
No SGLT2i use	266	329	1.71	2.12	0.82 (0.70–0.96)§	



Rossing P, et al. Diabetes Care 2022; 45:2991-98.

FIDELITY data: subgroup analysis by SGLT2i use at baseline



Rossing P, et al. Diabetes Care 2022; 45:2991-98.

FIDELITY data: subgroup analysis by SGLT2i use at baseline

Investigator-reported, treatment-emergent AE	SGLT2i at baseline		No SGLT2i at baseline	
	Finerenone (*n* = 438)	Placebo (*n* = 439)	Finerenone (*n* = 6,072)	Placebo (*n* = 6,050)
Any AE	398 (90.9)	384 (87.5)	5,204 (85.7)	5,223 (86.3)
Leading to discontinuation	18 (4.1)	23 (5.2)	396 (6.5)	328 (5.4)
Any serious AE	146 (33.3)	141 (32.1)	1,914 (31.5)	2,045 (33.8)
Leading to discontinuation	7 (1.6)	8 (1.8)	138 (2.3)	146 (2.4)
Any AE resulting in death	2 (0.5)	9 (2.1)	108 (1.8)	142 (2.3)
Hyperkalemia-related AEs				
Any AE	45 (10.3)	12 (2.7)	867 (14.3)	436 (7.2)
Leading to discontinuation	5 (1.1)	3 (0.7)	105 (1.7)	35 (0.6)
Leading to hospitalization	1 (0.8)	0	39 (1.4)	8 (0.3)

Rossing P, et al. Diabetes Care 2022; 45:2991-98.

CONFIDENCE trial

Background

Both finerenone (nonsteroidal MRA) and empagliflozin (SGLT2i) can reduce kidney and cardiovascular events in people with CKD and T2D.

CONFIDENCE (NCT05254002) investigates whether dual therapy with finerenone and empagliflozin is superior to either agent alone in reducing albuminuria.

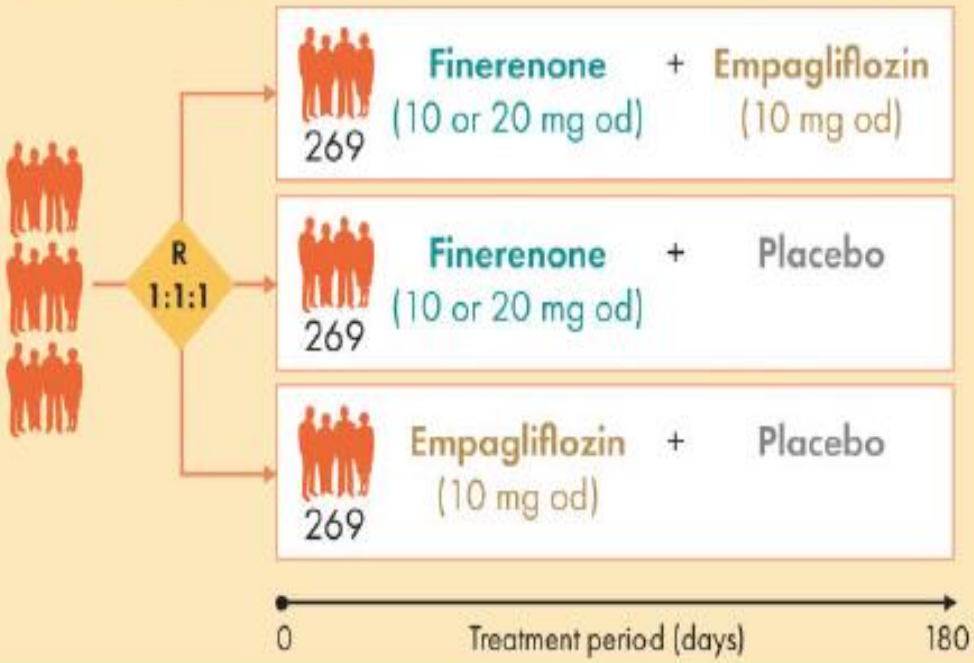
Participants

- 807 participants
- 125 centres
- 13 countries

✓
- ≥ 18 years
- T2D, CKD stage 2–3
- UACR ≥ 300 to < 5000 mg/g

✗
- T1D
- Serum K^+ > 4.8 mmol/L
- Treatment with SGLT1/2i or MRA

Treatment arms



Primary outcomes

Relative change in UACR from baseline to 180 days in:

Dual therapy vs. Finerenone

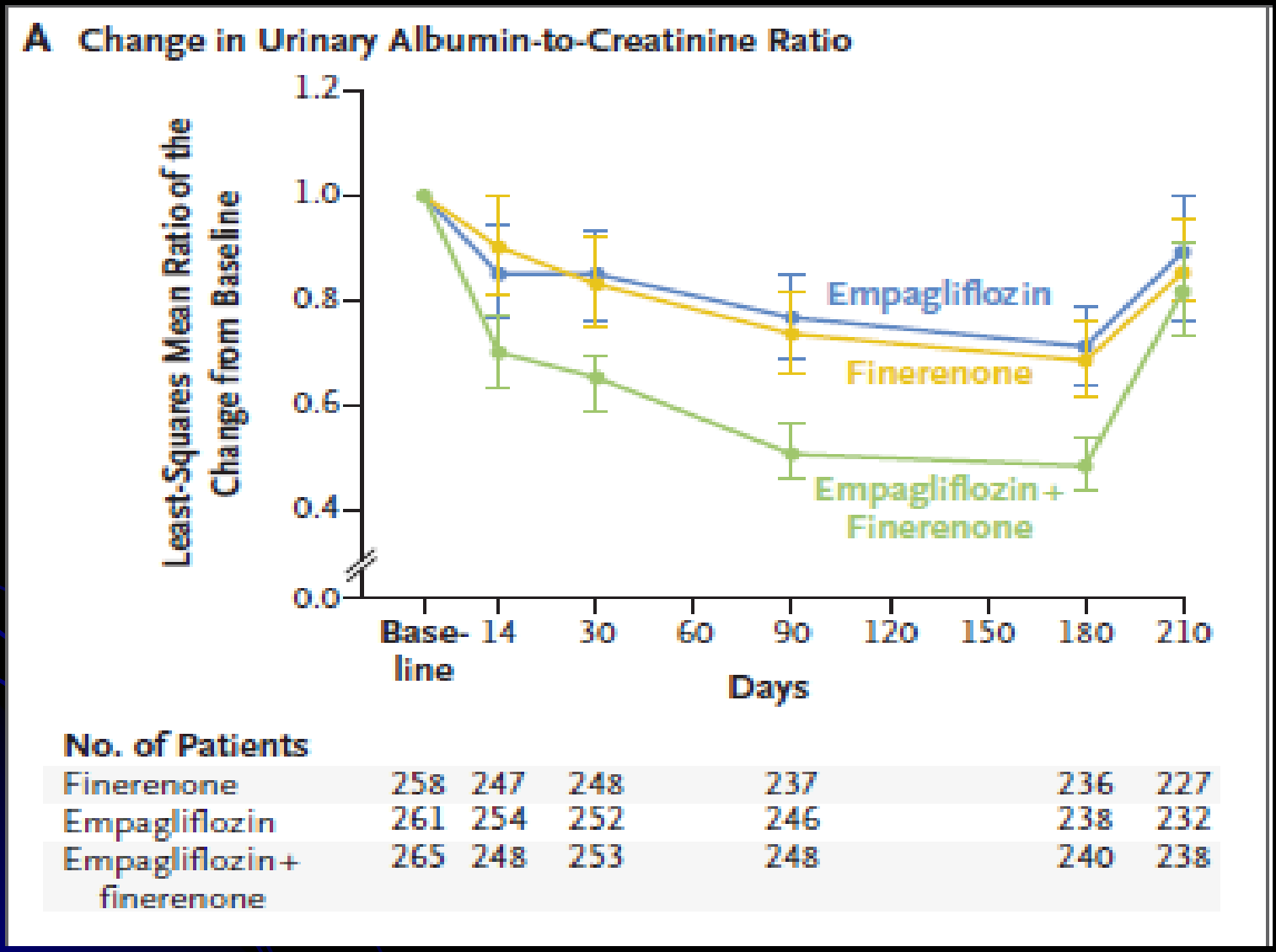
Dual therapy vs. Empagliflozin

Conclusion

Should an additive effect be shown, early and efficient intervention with dual finerenone and SGLT2i therapy could slow disease progression and provide long-term benefits for people with CKD and T2D.

Green JB, et al. Nephrol Dial Transplant 2023;38(4):894-903.

CONFIDENCE trial



No. of Patients						
Finerenone	258	247	248	237	236	227
Empagliflozin	261	254	252	246	238	232
Empagliflozin + finerenone	265	248	253	248	240	238

Agarwal R, et al. N Engl J Med. 2025;393(6):533-543.

CONFIDENCE trial

Event or Assessment	Finerenone plus Empagliflozin (N=268)	Finerenone (N=264)	Empagliflozin (N=266)	Total (N=798)
		number (percent)		
Investigator-reported adverse events†				
Any adverse event	144 (53.7)	136 (51.5)	135 (50.8)	415 (52.0)
Adverse event leading to treatment discontinuation	12 (4.5)	9 (3.4)	9 (3.4)	30 (3.8)
Any serious adverse event	19 (7.1)	16 (6.1)	17 (6.4)	52 (6.5)
Serious adverse event leading to treatment discontinuation	3 (1.1)	3 (1.1)	2 (0.8)	8 (1.0)
Adverse event with death as the outcome	3 (1.1)	0	3 (1.1)	6 (0.8)
Hyperkalemia‡	25 (9.3)	30 (11.4)	10 (3.8)	65 (8.1)
Safety assessments				
>30% Decline in eGFR from baseline to 30 days§	17 (6.3)	10 (3.8)	3 (1.1)	30 (3.8)
Serum potassium level — no./total no. (%)¶				
>5.5 mmol/liter	40/262 (15.3)	48/258 (18.6)	25/257 (9.7)	113/777 (14.5)
>5.5 to ≤6.0 mmol/liter	34/262 (13.0)	43/258 (16.7)	21/257 (8.2)	98/777 (12.6)
>6.0 mmol/liter	12/263 (4.6)	12/262 (4.6)	7/262 (2.7)	31/787 (3.9)

Agarwal R, et al. N Engl J Med. 2025;393(6):533-543.


ΑΧΕΠΑ
ΠΑΝΕΠΙΣΤΗΜΙΑΚΟ ΓΕΝΙΚΟ ΝΟΣΟΚΟΜΕΙΟ ΘΕΣΣΑΛΟΝΙΚΗΣ ΑΧΕΠΑ