Supplemental Table 1. Baseline characteristics per treatment sequence

	Treatment sequence*			
Characteristics	**A (n=9)**	**B (n=12)**	**C (n=12)**	**D (n=12)**
Age, years	54.5 ± 15.8	53.2 ± 16.3	52.6 ± 10.7	46.9 ± 10.4
Male sex, n (%)	7 (78)	8 (67)	10 (83)	8 (67)
White ethnicity, n (%)	9 (100)	12 (100)	12 (100)	12 (100)
Body mass index, kg/m^2	29.2 ± 4.8	26.6 ± 3.2	28.2 ± 4.5	28.5 ± 5.9
Renal diagnosis				
IgA nephropathy, n (%)	1 (11)	4 (33)	2 (17)	2 (17)
Focal segmental glomerulosclerosis, n (%)	3 (33)	2 (17)	1 (8)	2 (17)
Membranous nephropathy, n (%)	2 (22)	2 (17)	1 (8)	3 (25)
Hypertensive nephropathy, n (%)	1 (11)	0 (0)	2 (17)	1 (8)
Other/Inconclusive, n (%)	2 (22)	4 (33)	6 (50)	4 (33)
Season				
Winter, n (%)	1 (11)	3 (25)	4 (33)	3 (25)
Spring, n (%)	2 (22)	4 (33)	3 (25)	1 (8)
Summer, n (%)	3 (33)	4 (33)	4 (33)	8 (67)
Autumn, n (%)	3 (33)	1 (8)	1 (8)	0 (0)
Medication use†				
ACE inhibitor, n (%)	9 (100)	12 (100)	12 (100)	12 (100)
β-blocker, n (%)	2 (22)	2 (17)	4 (33)	4 (33)
Calcium channel blocker, n (%)	1 (11)	5 (42)	5 (42)	3 (25)
α-blocker, n (%)	1 (11)	0 (0)	1 (8)	1 (8)
Diuretic, n (%)	4 (44)	2 (17)	2 (17)	4 (33)
Lipid lowering agent, n (%)	6 (67)	6 (50)	7 (58)	5 (42)
Systolic blood pressure, mmHg	126 ± 15	125 ± 9	125 ± 11	126 ± 9
Diastolic blood pressure, mmHg	77 ± 10	76 ± 6	77 ± 7	76 ± 9
eGFR (CKD-EPI), ml/min/1.73m^2	73 ± 17	71 ± 30	65 ± 23	70 ± 23
Calcium, mmol/L	2.36 ± 0.12	2.35 ± 0.11	2.36 ± 0.09	2.36 ± 0.11
Phosphate, mmol/L‡	0.86 ±0.17	0.94 ± 0.14	0.87 ± 0.20	1.07 ± 0.11
Albuminuria, mg/24h	1,372 [822-2,290]	1,154 [654-2,037]	1,295 [783-2,143]	951 [561-1,612]
Urinary protein excretion, g/24h	1.59 [0.96-2.65]	1.45 [0.88-2.39]	1.56 [0.99-2.44]	1.19 [0.77-1.83]
Urinary sodium excretion, mmol/24h	173 ± 56	192 ± 25	160 ± 45	175 ± 104

Creatinine clearance, mL/min	106 ± 24	99 ± 43	99 ± 36	100 ± 47

* A= placebo-regular sodium diet, paricalcitol-regular sodium diet, placebo-sodium restriction diet, paricalcitol-sodium restriction diet.; B= paricalcitol-regular sodium diet, placebo-regular sodium diet, paricalcitol-sodium restriction diet, placebo- sodium restriction diet; C= placebo-sodium restriction diet, paricalcitol-sodium restriction diet, placebo-regular sodium diet, paricalcitol-regular sodium diet; D= paricalcitol-sodium restriction diet, placebo-sodium restriction diet, paricalcitol-regular sodium diet, placebo-regular sodium diet.

Data are presented as mean ± SD, geometric mean [95% CI], and number (percentage) for normally, skewed distributed data, and nominal data, respectively. Differences between the four sequences were assessed with ANOVA for normally distributed continuous data, the Kruskal-Wallis test for skewed distributed data, and the $\chi 2$ test for nominal data. ‡ $P<0.05$. † At the end of the run-in period, all patients were treated with ramipril 10 mg once daily, except for one patient who received ramipril 5 mg due to low blood pressure. In one patient, diuretic therapy was stopped during the study and later on resumed because of oedema. In another patient the calcium channel blocker was stopped due to symptomatic hypotension. All other non-study-related medication was kept stable during the study periods.

Supplemental Table 2. Adverse effects possibly or probably related to treatment

	Regular sodium diet		Sodium restriction diet	
	Placebo N = 44	Paricalcitol N= 44	Placebo N = 43	Paricalcitol N = 43
Laboratory				
Hypercalcemia *corrected calcium > 2.60 mmol/L*	4	3	2	8
Hypoparathyroidism *PTH < 1.5 pmol/L*	0	2	0	2
Elevated liver enzymes *ASAT > 40 U/L, ALAT > 45 U/L, GGT > 50 U/L*	9	14	8	7
Anaemia	0	0	1	1
Acute-on-chronic kidney disease	0	0	0	1
Hyperkalaemia *potassium > 5.0 mmol/L*	2	3	4	5
Hypokalaemia *potassium < 3.50 mmol/L*	0	2	0	0
Hyponatraemia *sodium < 135 mmol/L*	1	0	1	0
Hypophosphataemia *phosphate <0.80 mmol/L*	10	5	6	2
Hypocalcaemia *corrected calcium <2.20 mmol/L*	2	2	3	1
Elevated alkaline phosphatase *ALP > 150 U/L*	0	1	2	0
Worsening hypothyroidism	0	1	0	0
Rhabdomyolysis	0	1	0	0
Physical				
Peripheral oedema	13	12	8	5
De novo atrial fibrillation	0	0	1	0
Foot drop	0	0	1	0
Peripheral artery occlusive disease (Fontaine IIB)	1	0	0	0
Reported adverse effects				
Severe symptomatic hypotension	0	0	0	1
Mild symptomatic hypotension	2	1	10	4
Fatigue	1	5	3	7
Malaise	2	2	1	2
Headache	7	7	4	3
Vertigo	2	4	4	3
Visual complaint	1	2	0	1
Dry mouth	1	1	2	1
Itchiness	1	1	1	0
Skin complaint	2	0	0	1
Excessive sweating	0	1	0	0
Dyspnoea	1	2	1	0
Dry cough	3	4	2	1
Lower respiratory tract infection	1	0	1	1
Palpitations	0	0	2	1
Gastrointestinal complaints*	1	2	7	3
Pain	5	5	4	3
Myalgia	5	5	4	6
Muscle spasm or cramp†	3	0	1	2
Arthritis including gout	3	3	3	2
Bursitis	0	1	1	1
Micturition complaints including urinary tract infection	2	4	1	0

Erectile dysfunction†	1	0	0	0

Data represent numbers of patients with a particular adverse effect per study period. Some patients had more than one treatment-related adverse effect. * Gastrointestinal complaints including heartburn, dyspepsia, constipation and diarrhoea. † Two patients had complaints possibly related to ramipril (muscle pain and erectile dysfunction) and switched to another ACEi (enalapril 40 mg/day and fosinopril 10 mg/day, resp.).

Supplemental Table 3. Clinical parameters during four treatment periods; *per protocol* analysis

	Regular sodium diet		Sodium restriction diet	
	Placebo N= 31	Paricalcitol N= 34	Placebo N= 34	Paricalcitol N= 32
Plasma/Serum				
Hb, mmol/L	9.1 [8.8-9.4]	9.1 [8.9-9.4]	9.1 [8.8-9.4]	9.1 [8.8-9.4]
Sodium, mmol/L	140 [139-141]	140 [139-141]	140 [139-140]	140 [139-141]
Potassium, mmol/L	4.3 [2.7-5.9]	4.2 [2.5-5.9]	4.4 [2.6-6.1]†	4.4 [3.1-5.6]†
Calcium, mmol/L	2.35 [2.09-2.60]	2.37 [2.13-2.61]	2.36 [2.14-2.59]	2.41 [1.75-3.07]*
Phosphate, mmol/L	0.91 [0.85-0.98]	0.95 [0.90-1.01]*	0.93 [0.88-0.96]	0.97 [0.91-1.03]*
Creatinine, µmol/L	112 [85-140]	114 [86-141]	112 [85-139]	121 [93-149]*†‡
eGFR, ml/min/1.73m^2	68 [59-76]	66 [58-74]	67 [59-75]	62 [53-70]*†‡
Albumin, g/L	39 [37-41]	39 [38-41]	40 [38-41]	40 [38-41]*
Total cholesterol, mmol/L	5.1 [4.7-5.5]	5.1 [4.7-5.6]	4.7 [4.3-5.1]*†	4.9 [4.5-5.4]†‡
HDL cholesterol, mmol/L	1.4 [1.2-1.5]	1.3 [1.2-1.5]	1.3 [1.1-1.4]*†	1.3 [1.2-1.4]
LDL cholesterol, mmol/L	3.0 [2.7-3.3]	3.0 [2.7-3.4]	2.8 [2.5-3.1]	2.9 [2.6-3.3]
Renin, pg/mL	44.0 [17.1-113.1]	48.6 [18.8-125.5]	60.3 [23.4-155.7]*†	62.7 [24.2-162.4]*†
PTH, pmol/L	5.3 [4.5-6.2]	3.6 [3.1-4.3]*	5.4 [4.7-6.3]†	3.4 [2.8-4.0]*‡
25(OH)D, nmol/L	53.5 [45.1-61.8]	52.2 [44.1-60.3]	52.6 [44.8-60.3]	58.0 [49.4-66.6]
FGF23, RU/mL	115 [100-132]	141 [120-166]*	123 [106-142]†	156 [130-188]*†‡
Urine				
Creatinine, mmol/24h	15.5 [14.2-16.9]	15.0 [13.8-16.3]	14.6 [13.3-15.8]	15.2 [14.1-16.4]
Sodium, mmol/24h	187 [164-210]	183 [163-202]	105 [88-123]*†	112 [96-129]*†
Urea, mmol/24h	446 [402-490]	427 [383-471]	401 [359-443]*	422 [382-462]
Potassium, mmol/24h	85 [76-94]	84 [75-93]	86 [76-97]	88 [77-98]
Calcium, mmol/24h	3.2 [2.5-3.8]	5.1 [4.1-6.1]*	2.6 [1.8-3.4]†	4.5 [3.6-5.5]*‡
Phosphate, mmol/24h	33.8 [30.6-36.9]	33.9 [29.9-37.9]	32.6 [27.4-37.9]	32.0 [28.8-35.2]
Albuminuria, mg/24h	1,177 [823-1,682]	1,082 [772-1,516]	804 [564-1,146]*†	690 [480-993]*†‡
Proteinuria, g/24h	1.5 [1.1-2.1]	1.4 [1.0-1.9]	1.1 [0.8-1.5]*†	1.0 [0.7-1.3]*†
Albumin/creatinine ratio	77 [54-109]	74 [52-103]	57 [40-81]*†	46 [32-67]*†‡
Creatinine clearance, mL/min	105 [88-121]	98 [85-111]	97 [83-110]	93 [81-104]*
Other				
Systolic blood pressure, mmHg	129 [125-134]	125 [120-129]*	120 [116-125]*†	121 [116-125]*
Diastolic blood pressure, mmHg	79 [76-82]	77 [73-81]	74 [70-77]*†	74 [70-77]*
Mean arterial pressure, mmHg	96 [92-99]	93 [89-97]*	89 [86-93]*†	90 [86-93]*
Heart rate, bpm	65 [61-69]	66 [62-70]	66 [62-70]	64 [60-68]†‡
Body weight, kg	95 [89-101]	95 [89-100]	93 [87-98]*†	93 [87-98]*†

Data are presented as estimated mean [95% CI] or estimated geometric mean [95% CI] for normally or skewed distributed data, respectively. *P* value shows treatment effect by linear mixed modelling with centre, treatment, sequence and the interaction treatment*sequence as fixed factors.

*P< 0.05 versus placebo on regular sodium diet

†P<0.05 versus paricalcitol on regular sodium diet

‡P<0.05 versus placebo on sodium restriction diet