Supplementary Table S1. Clinical characteristics at baseline (CCA set, n=418))

	Unadjusted			PS-IPW; Stabilized ATE with trimming			PS-matching		
	GLP1Ra-preceded group, N=277	SGLT2i-preceded group, N=191	P-value	GLP1Ra-preceded group, N=218†	SGLT2i-preceded group, N=175†	Standardized difference	GLP1Ra-preceded group, N=124	SGLT2i-preceded group, N=124	Standardized difference
Age (year-old)	56.1±14.1	56.3±12.6	0.93	56.0±15.1	56.9±12.4	0.07	58.0±14.7	57.7±12.5	0.02
Sex (female (%))	105 (46%)	75 (39%)	0.15*	101 (46%)	84 (48%)	0.03	55 (44%)	61 (49%)	0.10
The history of DM >10 years (%)	188 (83%)	144 (75%)	0.02*	174 (80%)	139 (79%)	0.01	100 (81%)	95 (77%)	0.10
BW (kg)	78.9±18.1	78.8±17.2	0.99	78.9±18.6	78.2±16.6	0.04	78.0±17.1	77.2±17.9	0.05
BMI	29.5±55	29.3±5.4	0.69	29.6±5.3	29.5±5.6	0.02	29.4±5.2	29.4±6.0	<0.01
SBP (mmHg)	133.6±18.4	135.6±18.5	0.27	134.4±17.6	134.9±17.8	0.03	135.2±18.6	137.1±19.5	0.10
DBP (mmHg)	77.1±12.3	79.3±13.1	0.08	77.9±12.5	78.1±12.2	0.02	78.2±13.1	77.7±13.5	0.04
MAP (mmHg)	95.9±12.7	98.0±13.3	0.10	96.8±12.3	97.0±12.5	0.02	97.2±13.0	97.5±14.0	0.02
HbA_{1c} (mmol/mol (%))	72.9±19.1 (8.8±17)	71.1±17.6 (8.7±1.6)	0.32	72.6±18.4 (8.8±1.7)	72.2±18.6 (8.8±1.7)	0.02	72.0±19.0 (8.7±1.7)	71.2±18.2 (8.7±1.7)	0.04
eGFR (mL/min/1.73m^2)	78.5±30.6	79.1±26.0	0.83	79.9±31.8	78.9±25.6	0.04	77.2±29.4	77.9±26.6	0.03
ACR (mg/gCr)	40.7 [11.7, 157.4]	36.8 [13.0, 120.6]		44.7 [13.4, 177.8]	36.4 [12.9, 121.3]		42.1 [13.2]	38.8 [14.2, 177.2]	
LnACR	3.85±1.74	3.83±1.71	0.93	3.88±1.64	3.83±1.74	0.03	3.84±1.68	3.97±1.79	0.07
Duration of the preceding treatment (month)	31.9±23.5	24.0±14.6	<0.001	25.3±18.6	24.2±14.5	0.07	24.7±17.6	22.7±14.0	0.13
Duration of the combination treatment (month)	39.1±18.6	28.7±13.8	<0.001	33.6±17.2	33.4±16.1	0.02	32.3±15.8	32.5±14.3	0.01
Total duration of the study (month)	71.0±26.2	52.7±15.9	<0.001	59.0±23.4	57.6±16.7	0.07	56.9±19.5	55.1±15.8	0.10
Concomitant medications									
Sulphonylurea	75 (33%)	61 (32%)	0.81*	67 (31%)	51 (29%)	0.04	37 (30%)	36 (29%)	0.02
Metformin	108 (48%)	115 (60%)	0.01*	122 (56%)	98 (56%)	<0.01	67 (54%)	70 (57%)	0.05
Insulin	96 (42%)	92 (48%)	0.23*	101 (46%)	80 (46%)	0.01	61 (49%)	59 (48%)	0.03
Pioglitazone	19 (8%)	41 (22%)	<0.001*	37 (17%)	27 (16%)	0.06	16 (13%)	19 (15%)	0.07
αGI	27 (12%)	36 (19%)	0.048*	31 (14%)	28 (16%)	0.07	20 (16%)	18 (15%)	0.04
Glinide	11 (5%)	12 (6%)	0.52*	19 (9%)	11 (6%)	0.17	8 (7%)	4 (3%)	0.15
RAS inhibitor	118 (52%)	103 (54%)	0.69*	118 (54%)	99 (57%)	0.05	67 (54%)	66 (53%)	0.02
CCB	89 (39%)	74 (39%)	0.92*	96 (44%)	75 (43%)	0.02	51 (41%)	56 (45%)	0.08
B blocker	37 (16%)	32 (17%)	0.90*	29 (13%)	24 (14%)	0.02	18 (15%)	21 (17%)	0.07
MRB	9 (4%)	8 (4%)	0.91*	9 (4%)	7 (4%)	0.02	6 (5%)	6 (5%)	0.0
Thiazide	22 (10%)	8 (4%)	0.03*	13 (6%)	9 (5%)	0.08	4 (3%)	7 (6%)	0.12
Loop	16 (7%)	6 (3%)	0.08*	8 (4%)	6 (3%)	0.03	4 (3%)	5 (4%)	0.04
Statin	107 (47%)	104 (55%)	0.14*	109 (50%)	92 (53%)	0.05	63 (51%)	60 (48%)	0.05

Values are mean±SD or n/total n (%). P values by unpaired t-test or *chi-square test

†Calculated number of subjects after weighting

Abbreviation; αGI, alpha glucosidase inhibitor; ATE, average treatment effect; BMI, body mass index; BW, body

weight; DBP, diastolic blood pressure; CCA, complete case analysis, CCB, calcium channel blocker; DM, diabetes mellitus; eGFR, estimated glomerular filtration; GLP1Ra, glucagon-like peptide 1 receptor agonist; HbA1c, glycated hemoglobin A1c; IPW, inverse provability weighting; LNACR, logarithmic value of urine albumin-to-creatinine ratio; MAP, mean arterial pressure; MI, multiple imputation; MRB, mineral corticoid receptor blocker; PS, propensity score; RAS, renin-angiotensin system inhibitor; SBP, systolic blood pressure; SGLT2i, sodium-glucose co-transporter inhibitor

Supplementary Table S2 The renal outcomes and the clinical characteristics after the combination treatment (CCA set, n=418)

	Unadjusted			PS-IPW; Stabilized ATE with trimming			PS-matching		
	GLP1Ra-preceded group, N=277	SGLT2i-preceded group, N=191	P-value	GLP1Ra-preceded group, N=218*	SGLT2i-preceded group, N=175*	GLM†	GLP1Ra-preceded group, N=124	SGLT2i-preceded group, N=124	P-value♯
Renal outcomes and function									
a) Incidence of renal composite outcome	64 (28%)	47 (25%)	0.41**	56 (26%)	45 (26%)	1.02 [0.61, 1.68], p=0.95	34 (27%)	32 (26%)	0.89
Progression of ACR status	35 (15%)	5 (18%)	0.51**	34 (16%)	33 (19%)	1.26 {0.70, 2.27], p=0.44	20 (16%)	22 (18%)	0.86
≧30% decrease of eGFR	39 (17%)	17 (9%)	0.01**	31 (14%)	18 (10%)	0.70 [0.35, 1.40[, p=0.32	19 (15%)	12 (10%)	0.27
b) Changes in eGFR									
Change rate in eGFR (%)	-12.1±21.7	-7.7±22.1	0.04††	-11.9±19.3	-8.8±22.7	3.1 [-1.4, 7.7], p=0.18	-12.2±19.9	-8.9±22.7	0.24
Annual changes in eGFR (mL/min/1.73m^2/year)	-2.0±3.7	-1.7±3.9	0.47††	-2.5±4.0	-1.6±3.6	0.9 [0.03, 1.7], p=0.04	-2.4±4.0	-1.7±3.8	0.17
c) Changes in LnACR	-0.06±1.34	-0.04±1.36	0.91††	-0.21±1.35	0.05±1.39	0.25 [-0.13, 0.64], p=0.20	-0.08±1.21	-0.03±1.40	0.75
Clinical characteristics after combination treatment									
eGFR (mL/min/1.73m^2)	68.3±28.8	72.2±26.6	0.15††	69.8±29.7	72.5±27.1		67.4±27.5	70.6±28.1	0.36
LnACR	3.78±1.66	3.79±1.82	0.99††	3.68±1.58	3.88±1.92		3.76±1.49	3.94±1.94	0.43
BW (kg)	73.9±17.7	75.5±17.1	0.35††	73.7±18.3	74.9±16.8		72.7±16.6	74.0±17.5	0.56
SBP (mmHg)	127.8±15.1	128.6±16.4	0.57††	127.9±16.0	128.9±17.2		127.9±15.2	129.4±16.9	0.47
DBP (mmHg)	74.1±11.5	75.5±13.1	0.26††	74.0±12.5	75.0±12.4		73.6±11.7	74.4±13.0	0.64
MAP (mmHg)	92.0±11.1	93.2±12.6	0.30††	92.0±12.2	93.0±12.2		91.7±11.2	92.7±12.5	0.51
HbA_{1c} (mmol/mol (%))	64.4±16.5 (8.0±1.5)	63.7±16.4 (8.0±15.)	0.67††	63.1±15.7 (7.9±1.4)	63.5±16.0 (8.0±1.5)		62.4±14.8 (7.9±1.4)	62.6±15.0 (7.9±1.4)	0.93
Change in the clinical findings									
Change in BW (kg)	-4.9±7.7	-3.3±6.0	0.02††	-5.2±8.8	-3.3±5.9	1.9 [0.2, 3.7], p=0.03	-5.3±8.7	-3.2±6.2	0.03
Change in SBP (mmHg)	-5.9±19.2	-7.0±12.7	0.56††	-6.5±19.7	-6.0±20.6	0.5 [-4.3, 5.3], p=0.83	-7.3±20.5	-7.8±21.4	0.86
Change in DBP (mmHg)	-3.0±12.7	-3.8±13.1	0.52††	-3.9±13.0	-3.0±12.9	0.9 [-2.0, 3.8], p=0.54	-4.6±12.4	-3.3±13.4-	0.48
Change in MAP (mmHg)	-3.9±13.5	-4.8±13.7	0.49††	-4.8±13.8	-4.0±13.5	0.8 [-2.3, 3.9], p=0.62	-5.5±13.7	-4.8±14.3	0.71
Change in HbA1c (mmol/mol [%])	-8.6±20.6 (-0.8±1.9)	-7.5±20.9 (-0.7±1.9)	0.58††	-9.5±19.6 (-0.9±1.8)	-8.8±20.7 (-0.8±1.9)	0.8 [3.8, 5.3] (0.1 [-0.3, 0.5]), p=0.74	-9.5±19.6 (-0.9±1.8)	-8.6±20.6 (-0.8±1.9)	0.72

Values are mean±SD, n/total n (%), or the difference [95%CI] and P-value.

* Calculated number of subjects after weighting

†Data present as the difference [95%CI] and P-value analyzed by GLM.

♯McNemar test, ** chi-square test, ††unpaired t-test

Abbreviation; ATE, average treatment effect; BW, body weight; DBP, diastolic blood pressure; CI, confidence interval, eGFR, estimated glomerular filtration; FAS, full analysis set; GLM, generalized linear model, GLP1Ra,

glucagon-like peptide 1 receptor agonist; HbA1c, glycated hemoglobin A1c; IPW, inverse provability weighting; LNACR, logarithmic value of urine albumin-to- creatinine ratio; MAP, mean arterial pressure; MI, multiple imputation; PS, propensity score; SBP, systolic blood pressure; SGLT2i, sodium-glucose co-transporter inhibitor