

SUPPLEMENTAL - SENSITIVITY ANALYSES**I. EXCLUDING IMPUTATIONS**

Description: Listwise deletion of 101 cases with imputed data

a. Incidence of Renal Outcomes According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	No. of patients	CKD progression — no. (%)	≥ 50% reduction in GFR — no. (%)	ESRD or transplant — no. (%)
<110	179	18 (10.1)	16 (8.9)	9 (5.0)
110-119	933	67 (7.2)	52 (5.6)	35 (3.8)
120-129	1265	158 (12.5)	136 (10.8)	86 (6.8)
130-139	1398	187 (13.4)	136 (9.7)	128 (9.2)
140-149	767	145 (18.9)	115 (15.0)	98 (12.8)
≥150	358	126 (35.2)	89 (24.9)	98 (27.4)
Total	4900	701 (14.3)	544 (11.1)	454 (9.3)

b. Risk of Chronic Kidney Disease Progression According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
<110	1.3 (0.77–2.19)	1.74 (1.02–2.95)	0.041
110-119	1	1	(ref)
120-129	1.86 (1.4–2.47)	1.36 (1.01–1.82)	0.041
130-139	2.03 (1.53–2.68)	1.66 (1.22–2.27)	0.001
140-149	2.92 (2.19–3.9)	2.02 (1.43–2.84)	<0.001
≥150	7.01 (5.21–9.43)	2.97 (1.98–4.46)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

c. Risk of Chronic Kidney Disease Progression According to Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	1	1	(ref)
Moderately increased (A2)	1.85 (1.46–2.34)	1.49 (1.16–1.91)	0.002
Severely increased (A3)	11.29 (9.4–13.57)	3.08 (2.48–3.82)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

d. Interaction testing

Interaction	P Value
Follow-up SBP*A2 (vs. A1) albuminuria / proteinuria	0.027
Follow-up SBP*A3 (vs. A1) albuminuria / proteinuria	0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/proteinuria category, Follow-up SBP, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

e. Risk of Chronic Kidney Disease Progression in Subgroups of Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Follow-up SBP — mmHg	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	<110	1.67 (0.66–4.22)	0.275
	110-119	1	(ref)
	120-129	1.48 (0.88–2.49)	0.137
	130-139	0.89 (0.49–1.62)	0.706
	140-149	0.81 (0.4–1.65)	0.566
	>150	1.29 (0.55–3.01)	0.554
Moderately increased (A2)	<110	0.94 (0.26–3.44)	0.927
	110-119	1	(ref)
	120-129	0.75 (0.36–1.54)	0.433
	130-139	1.79 (0.87–3.71)	0.115
	140-149	1.82 (0.81–4.11)	0.148
	>150	1.76 (0.61–5.12)	0.296
Severely increased (A3)	<110	2.19 (1.02–4.7)	0.044
	110-119	1	(ref)
	120-129	1.54 (1.01–2.34)	0.046
	130-139	2.29 (1.48–3.54)	<0.001
	140-149	3.33 (2.07–5.37)	<0.001
	>150	5.23 (3.03–9.01)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

II. EXCLUDING DIABETES

Description: Listwise deletion of 43 cases with diabetes

a. Incidence of Renal Outcomes According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	No. of patients	CKD progression — no. (%)	≥ 50% reduction in GFR — no. (%)	ESRD or transplant — no. (%)
<110	183	18 (9.8%)	16 (8.7%)	9 (4.9%)
110-119	947	68 (7.2%)	53 (5.6%)	36 (3.8%)
120-129	1275	158 (12.4%)	135 (10.6%)	86 (6.7%)
130-139	1417	188 (13.3%)	137 (9.7%)	129 (9.1%)
140-149	772	144 (18.7%)	114 (14.8%)	97 (12.6%)
≥150	364	115 (31.6%)	77 (21.2%)	92 (25.3%)
Total	4958	691 (13.9%)	532 (10.7%)	449 (9.1%)

b. Risk of Chronic Kidney Disease Progression According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
<110	1.29 (0.77–2.17)	1.73 (1.02–2.94)	0.041
110-119	1	1	(ref)
120-129	1.84 (1.39–2.45)	1.37 (1.02–1.83)	0.034
130-139	2.01 (1.53–2.66)	1.68 (1.24–2.29)	0.001
140-149	2.88 (2.16–3.85)	2.08 (1.47–2.93)	<0.001
≥150	6.4 (4.74–8.64)	2.95 (1.96–4.44)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

c. Risk of Chronic Kidney Disease Progression According to Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	1	1	(ref)
Moderately increased (A2)	1.85 (1.46–2.34)	1.52 (1.18–1.95)	0.001
Severely increased (A3)	11.27 (9.37–13.56)	3.08 (2.48–3.83)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

d. Interaction testing

Interaction	P Value
Follow-up SBP*A2 (vs. A1) albuminuria / proteinuria	0.019
Follow-up SBP*A3 (vs. A1) albuminuria / proteinuria	0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/proteinuria category, Follow-up SBP, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

e. Risk of Chronic Kidney Disease Progression in Subgroups of Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Follow-up SBP — mmHg	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	<110	1.7 (0.67–4.28)	0.262
	110-119	1	(ref)
	120-129	1.45 (0.86–2.44)	0.162
	130-139	0.89 (0.49–1.62)	0.702
	140-149	0.84 (0.41–1.69)	0.618
	>150	1.24 (0.53–2.91)	0.621
Moderately increased (A2)	<110	0.96 (0.26–3.49)	0.945
	110-119	1	(ref)
	120-129	0.77 (0.37–1.58)	0.467
	130-139	1.88 (0.91–3.89)	0.089
	140-149	2 (0.89–4.51)	0.093
	>150	1.96 (0.68–5.67)	0.216
Severely increased (A3)	<110	2.15 (1–4.6)	0.049
	110-119	1	(ref)
	120-129	1.57 (1.03–2.38)	0.034
	130-139	2.32 (1.51–3.57)	<0.001
	140-149	3.34 (2.08–5.38)	<0.001
	>150	5.16 (2.99–8.91)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

III. EXCLUDING HALT-PKD TRIAL

Description: Listwise deletion of 178 cases from HALT-PKD trial

a. Incidence of Renal Outcomes According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	No. of patients	CKD progression — no. (%)	≥ 50% reduction in GFR — no. (%)	ESRD or transplant — no. (%)
<110	135	18 (13.3%)	16 (11.9%)	9 (6.7%)
110-119	883	68 (7.7%)	53 (6.0%)	36 (4.1%)
120-129	1236	158 (12.8%)	136 (11.0%)	86 (7.0%)
130-139	1413	191 (13.5%)	140 (9.9%)	130 (9.2%)
140-149	778	148 (19.0%)	118 (15.2%)	100 (12.9%)
≥150	378	129 (34.1%)	90 (23.8%)	100 (26.5%)
Total	4823	712 (14.8%)	553 (11.5%)	461 (9.6%)

b. Risk of Chronic Kidney Disease Progression According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
<110	2.05 (1.22–3.45)	1.76 (1.04–2.99)	0.035
110-119	1	1	(ref)
120-129	1.71 (1.29–2.27)	1.34 (1–1.79)	0.049
130-139	1.79 (1.36–2.37)	1.66 (1.22–2.26)	0.001
140-149	2.56 (1.92–3.41)	2.03 (1.44–2.85)	<0.001
≥150	6.08 (4.53–8.16)	3.01 (2.01–4.5)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

c. Risk of Chronic Kidney Disease Progression According to Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	1	1	(ref)
Moderately increased (A2)	2.4 (1.9–3.04)	1.5 (1.17–1.92)	0.001
Severely increased (A3)	11.65 (9.7–14)	3.08 (2.49–3.82)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

d. Interaction testing

Interaction	P Value
Follow-up SBP*A2 (vs. A1) albuminuria / proteinuria	0.017
Follow-up SBP*A3 (vs. A1) albuminuria / proteinuria	0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/proteinuria category, Follow-up SBP, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

e. Risk of Chronic Kidney Disease Progression in Subgroups of Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Follow-up SBP — mmHg	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	<110	1.68 (0.66–4.22)	0.275
	110-119	1	(ref)
	120-129	1.48 (0.88–2.49)	0.138
	130-139	0.89 (0.49–1.62)	0.706
	140-149	0.81 (0.4–1.65)	0.566
	>150	1.29 (0.55–3.01)	0.555
Moderately increased (A2)	<110	0.99 (0.27–3.6)	0.986
	110-119	1	(ref)
	120-129	0.71 (0.34–1.46)	0.352
	130-139	1.78 (0.87–3.67)	0.117
	140-149	1.82 (0.81–4.08)	0.148
	>150	1.96 (0.69–5.58)	0.209
Severely increased (A3)	<110	2.2 (1.03–4.69)	0.042
	110-119	1	(ref)
	120-129	1.52 (1–2.31)	0.048
	130-139	2.28 (1.49–3.51)	<0.001
	140-149	3.35 (2.09–5.36)	<0.001
	>150	5.2 (3.04–8.9)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

IV. GOAL BP AS MEAN FOLLOW-UP BP AFTER 12 MONTHS

Description: BP intervention groups defined using mean of follow-up BP readings at or beyond 12 months

a. Incidence of Renal Outcomes According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	No. of patients	CKD progression — no. (%)	≥ 50% reduction in GFR — no. (%)	ESRD or transplant — no. (%)
<110	212	10 (4.7%)	17 (8.0%)	10 (4.7%)
110-119	979	43 (4.4%)	62 (6.3%)	43 (4.4%)
120-129	1247	86 (6.9%)	122 (9.8%)	86 (6.9%)
130-139	1317	115 (8.7%)	135 (10.3%)	115 (8.7%)
140-149	812	101 (12.4%)	120 (14.8%)	101 (12.4%)
≥150	434	107 (24.7%)	97 (22.4%)	107 (24.7%)
Total	5001	462 (9.2%)	553 (11.1%)	462 (9.2%)

b. Risk of Chronic Kidney Disease Progression According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
<110	1.15 (0.7–1.88)	1.38 (0.84–2.28)	0.206
110-119	1	1	(ref)
120-129	1.61 (1.23–2.12)	1.17 (0.88–1.55)	0.273
130-139	1.88 (1.44–2.46)	1.35 (1.01–1.8)	0.043
140-149	2.55 (1.94–3.36)	1.69 (1.22–2.32)	0.001
≥150	5.96 (4.51–7.88)	2.21 (1.53–3.2)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

c. Risk of Chronic Kidney Disease Progression According to Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	1	1	(ref)
Moderately increased (A2)	1.85 (1.46–2.34)	1.51 (1.17–1.93)	0.001
Severely increased (A3)	11.43 (9.51–13.72)	3.09 (2.49–3.83)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

d. Interaction testing

Interaction	P Value
Follow-up SBP*A2 (vs. A1) albuminuria / proteinuria	0.053
Follow-up SBP*A3 (vs. A1) albuminuria / proteinuria	0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/proteinuria category, Follow-up SBP, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

e. Risk of Chronic Kidney Disease Progression in Subgroups of Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Follow-up SBP — mmHg	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	<110	1.7 (0.71–4.05)	0.231
	110-119	1	(ref)
	120-129	1.5 (0.89–2.52)	0.129
	130-139	0.82 (0.46–1.48)	0.514
	140-149	1.02 (0.52–2.02)	0.944
	>150	1.08 (0.47–2.46)	0.856
Moderately increased (A2)	<110	1.03 (0.34–3.14)	0.956
	110-119	1	(ref)
	120-129	0.66 (0.34–1.29)	0.221
	130-139	1.32 (0.7–2.5)	0.394
	140-149	1.63 (0.79–3.36)	0.191
	>150	1.67 (0.63–4.42)	0.304
Severely increased (A3)	<110	1.6 (0.75–3.37)	0.222
	110-119	1	(ref)
	120-129	1.34 (0.89–2.02)	0.156
	130-139	1.86 (1.23–2.82)	0.003
	140-149	2.44 (1.56–3.84)	<0.001
	>150	3.62 (2.21–5.95)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

V. GOAL BP AS MEAN OF ALL FOLLOW-UP BP READINGS

Description: BP intervention groups defined using mean of all follow-up BP readings

a. Incidence of Renal Outcomes According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	No. of patients	CKD progression — no. (%)	≥ 50% reduction in GFR — no. (%)	ESRD or transplant — no. (%)
<110	148	13 (8.8%)	13 (8.8%)	6 (4.1%)
110-119	873	65 (7.4%)	53 (6.1%)	35 (4.0%)
120-129	1372	173 (12.6%)	140 (10.2%)	96 (7.0%)
130-139	1495	196 (13.1%)	152 (10.2%)	131 (8.8%)
140-149	783	154 (19.7%)	112 (14.3%)	110 (14.0%)
≥150	330	112 (33.9%)	83 (25.2%)	84 (25.5%)
Total	5001	713 (14.3%)	553 (11.1%)	462 (9.2%)

b. Risk of Chronic Kidney Disease Progression According to Follow-up Systolic Blood Pressure

Follow-up SBP — mmHg	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
<110	1.05 (0.58–1.91)	1.76 (0.96–3.24)	0.068
110-119	1	1	(ref)
120-129	1.82 (1.37–2.42)	1.4 (1.05–1.88)	0.024
130-139	1.92 (1.45–2.55)	1.69 (1.23–2.32)	0.001
140-149	3.01 (2.25–4.02)	1.93 (1.36–2.74)	<0.001
≥150	6.42 (4.73–8.72)	2.44 (1.59–3.75)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

c. Risk of Chronic Kidney Disease Progression According to Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Unadjusted HR (95% CI)	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	1	1	(ref)
Moderately increased (A2)	1.85 (1.46–2.34)	1.51 (1.17–1.93)	0.001
Severely increased (A3)	11.43 (9.51–13.72)	3.09 (2.49–3.83)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

d. Interaction testing

Interaction	P Value
Follow-up SBP*A2 (vs. A1) albuminuria / proteinuria	0.022
Follow-up SBP*A3 (vs. A1) albuminuria / proteinuria	0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/proteinuria category, Follow-up SBP, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)

e. Risk of Chronic Kidney Disease Progression in Subgroups of Baseline Albuminuria or Proteinuria

Albuminuria / Proteinuria category	Follow-up SBP — mmHg	Adjusted HR (95% CI)	P value
Normal to mildly increased (A1)	<110	1.62 (0.6–4.42)	0.344
	110-119	1	(ref)
	120-129	1.25 (0.73–2.12)	0.418
	130-139	0.85 (0.47–1.55)	0.602
	140-149	0.63 (0.3–1.33)	0.225
	>150	1.06 (0.45–2.53)	0.891
Moderately increased (A2)	<110	1.49 (0.31–7.08)	0.62
	110-119	1	(ref)
	120-129	1.14 (0.57–2.29)	0.709
	130-139	2.13 (1–4.56)	0.051
	140-149	2.2 (0.95–5.09)	0.066
	>150	1.75 (0.58–5.27)	0.319
Severely increased (A3)	<110	1.95 (0.79–4.8)	0.147
	110-119	1	(ref)
	120-129	1.62 (1.06–2.47)	0.025
	130-139	2.37 (1.52–3.7)	<0.001
	140-149	3.19 (1.96–5.19)	<0.001
	>150	4.31 (2.41–7.71)	<0.001

Adjustments: Age, Female, Race, BMI, DM, CVD, Smoking status, Baseline GFR, Albuminuria/Proteinuria category, Baseline SBP, Baseline DBP, Time-updated SBP, Time-updated DBP, Number of agents, ACEI/ARB use, CCB use, Diuretic use (at baseline and trial start)