Supplementary Table S1: Key Baseline Characteristics for Subjects with Baseline Serum Calcification Propensity (T_{50}, min.) by Quintiles.

	Lower (N=560)	Lower Middle (N=555)	Middle (N=567)	Upper Middle (N=557)	Upper (N=546)
Demographics					
Age (yr)					
n	560	555	567	557	546
Median (p10, p90)	52.0 (32.0, 71.0)	54.0 (35.0, 73.0)	57.0 (35.0, 75.0)	55.0 (36.0, 73.0)	53.5 (34.0, 73.0)
Age category - n(%)					
<65 years	436 (77.9)	426 (76.8)	402 (70.9)	413 (74.1)	397 (72.7)
>=65 years	124 (22.1)	129 (23.2)	165 (29.1)	144 (25.9)	149 (27.3)
Female sex –n(%)	203 (36.3)	234 (42.2)	228 (40.2)	227 (40.8)	240 (44.0)
Race or ethnic group –n(%)					
White	274 (48.9)	311 (56.0)	336 (59.3)	350 (62.8)	328 (60.1)
Black	115 (20.5)	114 (20.5)	109 (19.2)	103 (18.5)	111 (20.3)
Other	171 (30.5)	130 (23.4)	122 (21.5)	104 (18.7)	107 (19.6)
Region - n(%)					
United States	211 (37.7)	212 (38.2)	194 (34.2)	162 (29.1)	163 (29.9)
Europe	102 (18.2)	178 (32.1)	207 (36.5)	240 (43.1)	218 (39.9)
Latin America	193 (34.5)	113 (20.4)	110 (19.4)	80 (14.4)	72 (13.2)
Russia	36 (6.4)	35 (6.3)	35 (6.2)	51 (9.2)	62 (11.4)
Australia	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Canada	18 (3.2)	17 (3.1)	21 (3.7)	24 (4.3)	31 (5.7)
Permanent Catheter	50 (8.9)	62 (11.2)	71 (12.5)	79 (14.2)	52 (9.5)
Other	15 (2.7)	18 (3.2)	11 (1.9)	7 (1.3)	12 (2.2)
Dialysate calcium (mEq/L)					
n	560	555	567	557	545
Median (p10, p90)	2.50 (2.25, 3.50)	2.50 (2.50, 3.50)	2.50 (2.25, 3.50)	2.50 (2.50, 3.50)	2.50 (2.50, 3.50)
Blood pressure (mm Hg)					
Systolic					
n	560	554	567	556	546
Median (p10, p90)	140.0 (110.0, 176.0)	140.0 (110.0, 180.0)	140.0 (110.0, 176.0)	140.0 (115.0, 178.0)	140.0 (110.0, 171.0)
Diastolic					
n	559	554	567	556	546
Median (p10, p90)	80.0 (60.0, 100.0)	80.0 (61.0, 99.0)	80.0 (60.0, 100.0)	80.0 (60.0, 100.0)	80.0 (60.0, 99.0)
ECG Result – n(%)					
Normal	202 (36.1)	191 (34.4)	218 (38.4)	207 (37.2)	221 (40.5)
Abnormal	346 (61.8)	351 (63.2)	324 (57.1)	330 (59.2)	300 (54.9)
Tobacco use - n(%)					

Never	334 (59.6)	300 (54.1)	310 (54.7)	331 (59.4)	310 (56.8)
Current	87 (15.5)	104 (18.7)	102 (18.0)	94 (16.9)	82 (15.0)
Former	139 (24.8)	151 (27.2)	155 (27.3)	132 (23.7)	154 (28.2)
Medical History					
History of diabetes –n(%)	181 (32.3)	178 (32.1)	196 (34.6)	175 (31.4)	143 (26.2)
Type 1	21 (3.8)	22 (4.0)	28 (4.9)	24 (4.3)	16 (2.9)
Type 2	161 (28.8)	156 (28.1)	168 (29.6)	151 (27.1)	127 (23.3)
History of cardiovascular disease –n(%)	533 (95.2)	527 (95.0)	536 (94.5)	535 (96.1)	508 (93.0)
Hypertension	515 (92.0)	510 (91.9)	518 (91.4)	519 (93.2)	492 (90.1)
Heart failure	133 (23.8)	134 (24.1)	130 (22.9)	112 (20.1)	121 (22.2)
Peripheral vascular disease	88 (15.7)	92 (16.6)	101 (17.8)	89 (16.0)	69 (12.6)
CABG	45 (8.0)	33 (5.9)	45 (7.9)	40 (7.2)	31 (5.7)
PCI	37 (6.6)	41 (7.4)	39 (6.9)	31 (5.6)	38 (7.0)
Myocardial infarction	77 (13.8)	63 (11.4)	69 (12.2)	67 (12.0)	58 (10.6)
Stroke	45 (8.0)	48 (8.6)	66 (11.6)	49 (8.8)	33 (6.0)
Transient ischemic attack	21 (3.8)	20 (3.6)	28 (4.9)	28 (5.0)	26 (4.8)
Amputation	37 (6.6)	39 (7.0)	30 (5.3)	32 (5.7)	24 (4.4)
Atrial fibrillation	53 (9.5)	60 (10.8)	76 (13.4)	52 (9.3)	67 (12.3)
History of parathyroidectomy –n(%)	25 (4.5)	19 (3.4)	25 (4.4)	32 (5.7)	32 (5.9)
History of fracture –n(%)	125 (22.3)	114 (20.5)	97 (17.1)	106 (19.0)	101 (18.5)
History of coronary artery disease–n(%)	143 (25.5)	129 (23.2)	141 (24.9)	131 (23.5)	110 (20.1)
History of cardiac arrhythmia[a]– n(%)	76 (13.6)	82 (14.8)	91 (16.0)	63 (11.3)	86 (15.8)
Other cardiac disease history[b]– n(%)	122 (21.8)	120 (21.6)	142 (25.0)	130 (23.3)	110 (20.1)
History of revascularization[c] – n(%)	83 (14.8)	90 (16.2)	90 (15.9)	83 (14.9)	78 (14.3)
History of dyslipidemia– n(%)	208 (37.1)	206 (37.1)	221 (39.0)	228 (40.9)	179 (32.8)
History of retinopathy– n(%)	127 (22.7)	123 (22.2)	128 (22.6)	128 (23.0)	99 (18.1)
Laboratory parameters					
iPTH (pg/mL) from central lab					
n	560	555	567	557	546
Median (p10, p90)	813 (392, 1893)	708 (382, 1765)	689 (377, 1694)	689 (369, 1789)	653 (345, 1505)

Serum calcification propensity (T50 min)					
n	560	555	567	557	546
Median (p10, p90)	109 (80, 131)	162 (142, 181)	213 (192, 232)	259 (240, 282)	329 (295, 406)
Corrected calcium (mg/dL)					
n	560	555	567	557	546
Median (p10, p90)	9.8 (9.0, 10.9)	9.7 (8.9, 10.7)	9.8 (8.9, 10.7)	9.8 (9.1, 10.7)	9.8 (9.2, 10.8)
Phosphorus (mg/dL)					
n	560	555	567	557	546
Median (p10, p90)	7.5 (5.9, 9.7)	6.7 (5.3, 8.6)	6.3 (5.0, 8.0)	5.8 (4.9, 7.3)	5.4 (4.6, 6.7)
Ca x P (mg^2/dL^2)					
n	560	555	567	557	546
Median (p10, p90)	73.0 (56.5, 96.0)	64.2 (51.4, 83.8)	61.0 (49.4, 77.3)	56.4 (47.3, 71.8)	52.9 (44.2, 66.6)
FGF23 (pg/mL)					
n	559	551	565	555	542
Median (p10, p90)	10670.0 (1520.0, 24100.0)	7030.0 (830.0, 20520.0)	5640.0 (730.0, 19280.0)	3690.0 (480.0, 15420.0)	2655.0 (310.0, 13760.0)
$25(OH)_2D$ (ng/mL)					
n	558	551	564	555	543
Median (p10, p90)	19.0 (9.0, 38.0)	17.0 (8.0, 37.0)	17.0 (7.0, 39.0)	18.0 (8.0, 37.0)	18.0 (8.0, 38.0)
1,25(OH) D (ng/L)					
n	547	532	538	537	517
Median (p10, p90)	7.6 (4.9, 21.4)	7.7 (4.9, 23.5)	8.7 (4.9, 21.5)	9.2 (4.9, 25.4)	10.0 (4.9, 26.1)
Alkaline phosphatase (U/L)					
n	556	548	562	555	544
Median (p10, p90)	106.0 (64.0, 246.0)	101.0 (63.0, 248.0)	102.0 (63.0, 227.0)	113.0 (64.0, 258.0)	119.0 (69.0, 242.0)
Bone alkaline phosphatase (µg/L)					
n	556	552	564	555	545
Median (p10, p90)	21.8 (11.1, 75.4)	20.8 (11.1, 68.2)	21.7 (10.9, 66.7)	23.5 (11.4, 68.9)	27.3 (13.1, 75.2)
Bone alkaline phosphatase > 20.9 µg/L (%)	296 (52.9)	274 (49.4)	303 (53.4)	320 (57.5)	361 (66.1)
N-telopeptide (nmol/L)					
n	554	542	554	543	534

Median (p10, p90)	316.9 (95.1, 1288.3)	266.4 (76.0, 889.7)	236.1 (77.8, 822.8)	246.7 (83.6, 838.6)	244.3 (74.3, 815.2)
Hemoglobin (g/dL)					
n	509	494	498	510	500
Median (p10, p90)	11.5 (9.4, 13.4)	11.7 (10.1, 13.5)	11.9 (10.1, 13.8)	11.8 (10.1, 13.5)	11.7 (9.9, 13.6)
Albumin (g/dL)					
n	560	555	567	557	546
Median (p10, p90)	3.6 (3.2, 4.0)	3.6 (3.2, 4.0)	3.7 (3.2, 4.0)	3.7 (3.2, 4.1)	3.7 (3.3, 4.2)
Bicarbonate (mEq/L)					
n	549	535	550	551	535
Median (p10, p90)	20.0 (15.5, 25.3)	19.8 (15.6, 25.4)	19.8 (15.3, 25.3)	20.3 (16.0, 24.9)	21.4 (16.9, 26.6)
BUN (mg/dL)					
n	557	549	563	556	544
Median (p10, p90)	66.0 (44.0, 89.0)	64.0 (41.0, 86.0)	61.0 (41.0, 87.0)	59.0 (41.0, 82.0)	55.0 (36.0, 80.0)
Creatinine (mg/dL)					
n	557	549	563	556	544
Median (p10, p90)	10.4 (7.4, 14.2)	10.1 (6.9, 13.9)	10.0 (6.7, 14.2)	10.0 (6.6, 13.7)	9.6 (6.1, 13.7)
Glucose (mg/dL)					
n	530	522	536	538	520
Median (p10, p90)	94.0 (76.0, 167.0)	97.0 (77.0, 181.0)	98.0 (76.0, 176.0)	97.0 (76.0, 168.0)	95.0 (78.0, 167.5)
Cholesterol (mg/dL)					
Total					
n	556	550	564	557	543
Median (p10, p90)	159.0 (114.0, 222.0)	162.0 (115.0, 221.5)	162.0 (119.0, 222.0)	166.0 (119.0, 225.0)	166.0 (120.0, 236.0)
LDL					
n	533	519	535	529	504
Median (p10, p90)	87.0 (51.0, 140.0)	86.0 (48.0, 135.0)	86.0 (50.0, 142.0)	87.0 (47.0, 141.0)	89.5 (47.0, 140.0)
HDL					
n	553	547	558	555	535
Median (p10, p90)	40.0 (27.0, 60.0)	40.0 (26.0, 62.0)	42.0 (28.0, 61.0)	40.0 (27.0, 61.0)	42.0 (28.0, 67.0)
Triglycerides (mg/dL)					
n	556	550	564	557	543
Median (p10, p90)	134.0 (60.0, 289.0)	139.5 (61.0, 321.5)	139.5 (63.0, 316.0)	152.0 (71.0, 310.0)	137.0 (62.0, 335.0)
Uric acid (mg/dL)					
n	557	549	563	556	544
Median	6.4	6.5	6.4	6.4	6.2

(p10, p90)	(4.9, 8.3)	(4.8, 8.3)	(4.9, 8.5)	(4.9, 8.3)	(4.6, 8.1)
Dialysis dose>=1.2 spKt/V or>=65 URR - n(%)	476 (85.0)	471 (84.9)	469 (82.7)	466 (83.7)	479 (87.7)
Medications (%)					
Vitamin D use	280 (50.0)	299 (53.9)	363 (64.0)	370 (66.4)	340 (62.3)
Vitamin D sterol	274 (48.9)	291 (52.4)	354 (62.4)	362 (65.0)	329 (60.3)
Nutritional vitamin D	12 (2.1)	18 (3.2)	22 (3.9)	19 (3.4)	22 (4.0)
Phosphate binder use	502 (89.6)	492 (88.6)	515 (90.8)	497 (89.2)	475 (87.0)
Calcium-containing	326 (58.2)	287 (51.7)	308 (54.3)	308 (55.3)	289 (52.9)
Non-calcium containing	176 (31.4)	205 (36.9)	207 (36.5)	189 (33.9)	186 (34.1)
Beta-adrenergic antagonists	285 (50.9)	264 (47.6)	268 (47.3)	234 (42.0)	217 (39.7)
ACE-inhibitors/Angiotension receptor blockers	274 (48.9)	242 (43.6)	237 (41.8)	229 (41.1)	225 (41.2)
Anti-platelet agents	183 (32.7)	212 (38.2)	210 (37.0)	213 (38.2)	196 (35.9)
Statins	155 (27.7)	151 (27.2)	189 (33.3)	195 (35.0)	159 (29.1)
Erythropoietin	475 (84.8)	476 (85.8)	495 (87.3)	465 (83.5)	479 (87.7)
Iron supplements	326 (58.2)	331 (59.6)	330 (58.2)	348 (62.5)	293 (53.7)

Supplementary Table S2: List of variables used for the Cox regression analysis.

1. Covariates used in univariate model for all endpoints

Variable	Label
age	Age (years)
sex	Sex
racegr1	Race group
bmib	Baseline BMI (kg/m^2)
sbpb_t	Blood pressure – systolic per 10 mmHg increase
dbpb_t	Blood pressure – diastolic per 10 mmHg increase
hxmi	History of myocardial infarction
hxhf	History of heart failure
hxcad	History of coronary artery disease
hxcarr	History of cardiac arrythmia
hxhpt	History of hypertension
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
hxrvas	History of revascularization
hxdys	History of dyslipidemia
rhdduryr	Dialysis vintage (years)
blcaconc	Baseline Dialysate calcium conc. (mEq/L)
blvdfl	Baseline vitamin D use
blpbcafl	Baseline calcium-containing phosphate binder use
statinfl	Baseline statin use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
hgb_ob	Baseline hemoglobin (g/dL)

ldl_ob	LDL at baseline (mg/dL)
hdl_ob	HDL at baseline (mg/dL)
cholt_ob	Baseline total cholesterol (mg/dL)
hxsmk	Baseline tobacco use

2. Significant variables (probchisq<0.25) picked from univariate model and were included in the backward model per endpoint (variable t50_min_d is forced in the final model if not been selected for all endpoints)

1.) Primary composite endpoint

Variable	**Label**
trt01pn	Planned treatment
age	Age (years)
racegr1	Race group
bmib	Baseline BMI (kg/m^2)
sbpb_t	Blood pressure – systolic per 10 mmHg increase
dbpb_t	Blood pressure – diastolic per 10 mmHg increase
hxmi	History of myocardial infarction
hxhf	History of heart failure
hxcad	History of coronary artery disease
hxcarr	History of cardiac arrythmia
hxhpt	History of hypertension
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
hxrvas	History of revascularization
hxdys	History of dyslipidemia
rhdduryr	Dialysis vintage (years)

blvdfl	Baseline vitamin D use
blpbcafl	Baseline calcium-containing phosphate binder use
statinfl	Baseline statin use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
hdl_ob	HDL at baseline (mg/dL)
hxsmk	Baseline tobacco use

2.) All-cause mortality

Variable	**Label**
trt01pn	Planned treatment
age	Age (years)
racegr1	Race group
bmib	Baseline BMI (kg/m^2)
dbpb_t	Blood pressure – diastolic per 10 mmHg increase
hxmi	History of myocardial infarction
hxhf	History of heart failure
hxcad	History of coronary artery disease
hxcarr	History of cardiac arrythmia
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
hxrvas	History of revascularization
rhdduryr	Dialysis vintage (years)
blvdfl	Baseline vitamin D use
blpbcafl	Baseline calcium-containing phosphate binder use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
hdl_ob	HDL at baseline (mg/dL)

cholt_ob	Baseline total cholesterol (mg/dL)
hxsmk	Baseline tobacco use

3.) Myocardial infarction

Variable	**Label**
trt01pn	Planned treatment
age	Age (years)
sex	Sex
racegr1	Race group
sbpb_t	Blood pressure – systolic per 10 mmHg increase
dbpb_t	Blood pressure – diastolic per 10 mmHg increase
hxmi	History of myocardial infarction
hxhf	History of heart failure
hxcad	History of coronary artery disease
hxcarr	History of cardiac arrythmia
hxhpt	History of hypertension
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
hxrvas	History of revascularization
hxdys	History of dyslipidemia
blvdfl	Baseline vitamin D use
statinfl	Baseline statin use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
ldl_ob	LDL at baseline (mg/dL)
cholt_ob	Baseline total cholesterol (mg/dL)
hxsmk	Baseline tobacco use

4.) Peripheral vascular event

Variable	Label
trt01pn	Planned treatment
age	Age (years)
sex	Sex
racegr1	Race group
dbpb_t	Blood pressure – diastolic per 10 mmHg increase
hxmi	History of myocardial infarction
hxhf	History of heart failure
hxcad	History of coronary artery disease
hxcarr	History of cardiac arrythmia
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
hxrvas	History of revascularization
hxdys	History of dyslipidemia
rhdduryr	Dialysis vintage (years)
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
ldl_ob	LDL at baseline (mg/dL)
hdl_ob	HDL at baseline (mg/dL)
cholt_ob	Baseline total cholesterol (mg/dL)
hxsmk	Baseline tobacco use

5.) Cardiovascular mortality

Variable	Label
trt01pn	Planned treatment

age	Age (years)
racegr1	Race group
dbpb_t	Blood pressure – diastolic per 10 mmHg increase
hxmi	History of myocardial infarction
hxhf	History of heart failure
hxcad	History of coronary artery disease
hxcarr	History of cardiac arrythmia
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
hxrvas	History of revascularization
blvdfl	Baseline vitamin D use
blpbcafl	Baseline calcium-containing phosphate binder use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
cholt_ob	Baseline total cholesterol (mg/dL)
hxsmk	Baseline tobacco use

6.) Tertiary cardiovascular composite

Variable	**Label**
trt01pn	Planned treatment
age	Age (years)
racegr1	Race group
sbpb_t	Blood pressure – systolic per 10 mmHg increase
dbpb_t	Blood pressure – diastolic per 10 mmHg increase
hxmi	History of myocardial infarction
hxhf	History of heart failure
hxcad	History of coronary artery disease

hxcarr	History of cardiac arrythmia
hxhpt	History of hypertension
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
hxrvas	History of revascularization
hxdys	History of dyslipidemia
blvdfl	Baseline vitamin D use
blpbcafl	Baseline calcium-containing phosphate binder use
statinfl	Baseline statin use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
hxsmk	Baseline tobacco use

3. Variables selected from the backward model and were included in the final model per endpoint (variable t50_min_d is forced in the final model if not been selected for all endpoints)

1.) Primary composite endpoint

Variable	**Label**
trt01pn	Planned treatment
age	Age (years)
hxmi	History of myocardial infarction
hxhf	History of heart failure
hxcad	History of coronary artery disease
hxcarr	History of cardiac arrythmia
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack

hxpvd	History of peripheral vascular disease
rhdduryr	Dialysis vintage (years)
blvdfl	Baseline vitamin D use
statinfl	Baseline statin use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
hdl_ob	HDL at baseline (mg/dL)
hxsmk	Baseline tobacco use

2.) All-cause mortality

Variable	**Label**
trt01pn	Planned treatment
age	Age (years)
hxmi	History of myocardial infarction
hxhf	History of heart failure
hxcarr	History of cardiac arrythmia
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
rhdduryr	Dialysis vintage (years)
blvdfl	Baseline vitamin D use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
hdl_ob	HDL at baseline (mg/dL)
cholt_ob	Baseline total cholesterol (mg/dL)
hxsmk	Baseline tobacco use

3.) Myocardial infarction

Variable	**Label**

trt01pn	Planned treatment
age	Age (years)
hxmi	History of myocardial infarction
hxhpt	History of hypertension
hxotcd	Other cardiac disease history
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
ldl_ob	LDL at baseline (mg/dL)

4.) Peripheral vascular event

Variable	**Label**
trt01pn	Planned treatment
age	Age (years)
sex	Sex
racegr1	Race group
hxcad	History of coronary artery disease
hxcarr	History of cardiac arrythmia
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
rhdduryr	Dialysis vintage (years)
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
ldl_ob	LDL at baseline (mg/dL)
hxsmk	Baseline tobacco use

5.) Cardiovascular mortality

Variable	**Label**
trt01pn	Planned treatment

age	Age (years)
hxhf	History of heart failure
hxcad	History of coronary artery disease
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxtia	History of transient ischemic attack
hxpvd	History of peripheral vascular disease
blvdfl	Baseline vitamin D use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
hxsmk	Baseline tobacco use

6.) Tertiary cardiovascular composite

trt01pn age cad dys hf hxsmk otcd pvd sbpb_t str t50_min_d vdfl

Variable	**Label**
trt01pn	Planned treatment
age	Age (years)
sbpb_t	Blood pressure – systolic per 10 mmHg increase
hxhf	History of heart failure
hxcad	History of coronary artery disease
hxotcd	Other cardiac disease history
hxstr	History of stroke
hxpvd	History of peripheral vascular disease
hxdys	History of dyslipidemia
blvdfl	Baseline vitamin D use
t50_min_d	Baseline serum calcification propensity scores per 1 SD decrease
hxsmk	Baseline tobacco use

Supplementary Table S3: Baseline demographics (clinical data, laboratory parameters and medications) of all EVOLVE patients and the T_{50} cohort.

Demographics	All EVOLVE Patients (N = 3883)	T_{50} Cohort* (N = 2785)
Clinical data		
Blood pressure, mmHg		
Systolic	140 (110-177)	140 (110-177)
Diastolic	80 (60-100)	80 (60-100)
Diabetes, %	33.6	31.4
Type 1	4.0	4.0
Type 2	29.6	27.4
Tobacco use, %		
Never	56.2	56.9
Former	16.3	16.8
Current	27.4	26.2
History of cardiovascular disease, %	95.0	94.8
Hypertension	92.1	91.7
Heart failure	23.3	22.6
Peripheral vascular disease	16.4	15.8
CABG	7.4	7.0
PCI	6.7	6.7
Myocardial infarction	12.4	12.0
Stroke	9.1	8.7
Transient ischemic attack	4.5	4.4
Amputation	6.4	5.8
Atrial fibrillation	11.0	11.1
Laboratory parameters		
iPTH, pg/mL	693 (363-1694)	705 (371-1734)
Corrected calcium, mg/dL	9.8 (9.0-10.7)	9.8 (9.0-10.7)
Serum phosphorus, mg/dL	6.2 (4.9-8.4)	6.3 (4.9-8.4)
Ca x P, mg^2/dL^2	60.7 (47.8-81.9)	60.8 (48.1-82.3)
FGF23, pg/mL		5675 (590-19400)
$25(OH)_2D$, ng/mL	17 (8-37)	18 (8-38)
$1,25\ (OH)_2\ D$, pg/mL	8.8 (4.9-23.5)	8.5 (4.9-23.5)
Bone-specific alkaline phosphatase, µg/L	23.03 (11.51-68.00)	22.88 (11.36-70.21)
N-telopeptide, nmol/L	255.2 (80.5-882.5)	261 (79.4-931.0)
Hemoglobin, g/dL	11.8 (10.0-13.6)	11.7 (9.9-13.5)
Albumin, g/dL	3.7 (3.2-4.1)	3.7 (3.2-4.1)
Bicarbonate, mEq/L	20.3 (15.7-25.5)	20.3 (15.8-25.5)
BUN, mg/dL	61.0 (40.0-85.0)	61 (40-86)
Creatinine, mg/dL	9.9 (6.7-13.9)	10 (6.7-13.9)
Glucose, mg/dL	97 (77-177)	96 (76-170)
Cholesterol, mg/dL		
Total	162 (115-223)	163 (116-225)
LDL	86 (48-138)	87 (49-140)

HDL	41 (27-62)	41 (27-62)
Triglycerides	139 (62-313)	140 (63-315)
Uric acid, mg/dL	6.4 (4.8-6.3)	6.4 (4.8-8.3)
Medications, %		
Vitamin D use	59.5	59.3
Vitamin D sterol	58.2	57.8
Nutritional vitamin D	2.9	3.3
Phosphate binder use	88.4	89.1
Calcium-containing	53.1	54.5
Non-calcium containing	35.3	34.6
Beta-adrenergic antagonists	46.9	45.5
ACE-inhibitors/Angiotensin II receptor blockers	43.8	43.3
Anti-platelet agents	37.9	36.4
Statins	32.5	30.5
Erythropoietin	85.0	85.8
Iron supplements	56.9	58.5

Data are given as median (p10-p90) unless stated otherwise.
CABG = coronary artery bypass graft, PCI = percutaneous coronary intervention, iPTH = intact parathyroid hormone, FGF = fibroblast growth factor, BUN = blood urea nirogen, LDL = low density lipoprotein, HDL = high density lipoprotein, ACE = angiotensin converting enzyme
*Mean (SD) T_{50} was 215 (84) mins in the T_{50} cohort.

Supplementary Table S4: Baseline demographics (clinical data, laboratory parameters and medications) in the placebo and cinacalcet groups of the T_{50} cohort.

Demographics	**Placebo (N=1366)**	**Cinacalcet (N=1419)**
Region, %		
United States	33.5	34.1
Europe	34.2	33.7
Latin America	20.5	20.3
Russia	7.9	7.8
Australia	0.0	0.0
Canada	3.9	4.1
Current Dialysis Access, %		
Natural Fistula	73.4	72.2
Graft	13.0	14.3
Permanent Catheter	11.0	11.5
Other	2.5	2.0
Dialysate calcium, mEq/L	2.50 (2.50-3.50)	2.50 (2.50-3.50)
Tobacco use, %		
Never	56.9	56.9
Former	16.6	17.1
Current	26.5	26.0
History of diabetes, %		
Type 1	3.7	4.3
Type 2	27.2	27.5
History of cardiovascular disease, %	95.1	94.5
Hypertension	91.9	91.6
Heart failure	22.3	22.9
Peripheral vascular disease	15.4	16.3
CABG	6.7	7.2
PCI	6.7	6.7
Myocardial infarction	12.1	11.9
Stroke	7.6	9.7
Transient ischemic attack	4.8	4.0
Amputation	5.4	6.2
Atrial fibrillation	10.2	12.0

History of parathyroidectomy, %	4.7	4.8
History of fracture, %	18.7	20.3
History of coronary artery disease, %	22.5	24.5
History of cardiac arrhythmia[a], %	13.9	14.8
Other cardiac disease history[b], % (%)	23.0	22.0
History of revascularization[c], %	15.3	15.0
History of dyslipidemia, %	36.9	37.9
History of retinopathy, %	21.2	22.4
Laboratory parameters		
iPTH, pg/mL	707.0 (371.0-1755.0)	697.5 (372.0-1717.0)
Corrected calcium, mg/dL	9.8 (9.0-10.7)	9.8 (9.0-10.7)
Serum phosphorus, mg/dL	6.3 (4.9-8.3)	6.2 (4.9-8.4)
Ca x P, mg^2/dL^2	60.9 (48.2-82.0)	60.7 (48.0-82.4)
FGF23, pg/mL	5610 (580-19390)	5750 (590-19390)
$25(OH)_2D$, ng/mL	17.0 (8.0-37.0)	18.0 (8.0-38.0)
$1,25\ (OH)_2\ D$, pg/mL	8.5 (4.9-24.5)	8.6 (4.9-22.2)
Bone-specific alkaline phosphatase, µg/L	109 (64-262)	106 (65-226)
N-telopeptide, nmol/L	271.0 (82.1-965.6)	248.5 (77.8-871.0)
Hemoglobin, g/dL	11.7 (9.9-13.4)	11.7 (9.9-13.7)
Albumin, g/dL	3.7 (3.2-4.1)	3.7 (3.2-4.1)
Bicarbonate, mEq/L	20.3 (15.8-25.4)	20.3 (15.8-25.6)
BUN, mg/dL	61.0 (40.0-85.0)	61.0 (40.0-86.0)
Creatinine, mg/dL	10.0 (6.7-13.9)	10.0 (6.7-13.9)
Glucose, mg/dL	95.0 (76.0-172.0)	97.0 (77.0-167.0)
Cholesterol, mg/dL		
Total	162.0 (117.0-223.0)	164.0 (116.0-225.5)
LDL	86.0 (48.0-140.0)	87.0 (51.0-138.0)
HDL	41.0 (27.0-62.0)	41.0 (27.0-62.0)
Triglycerides	139.0 (63.0-315.5)	142.0 (63.0-312.5)
Uric acid, mg/dL	6.3 (4.8-8.3)	6.4 (4.8-8.4)
Medications, %		
Vitamin D use	59.2	59.4
Vitamin D sterol	58.1	57.5

Nutritional vitamin D	3.0	3.7
Phosphate binder use	88.0	90.2
Calcium-containing	53.7	55.4
Non-calcium containing	34.3	34.8
Beta-adrenergic antagonists	47.0	44.0
ACE-inhibitors/Angiotensin II receptor blockers	44.9	41.7
Anti-platelet agents	36.4	36.5
Statins	31.2	29.7
Erythropoietin	86.8	84.9
Iron supplements	59.7	57.0

Data are given as median (p10-p90) unless stated otherwise

[a] History of cardiac arrhythmia includes chronic atrial fibrillation/flutter, paroxysmal atrial fibrillation, ventricular tachycardia/fibrillation, automatic implantable cardioverter-defibrillator, pacemaker.

[b] Other cardiac disease history includes valvular heart disease and angina.

[c] History of revascularization includes coronary artery bypass graft, percutaneous coronary intervention, revascularization of carotid artery, peripheral artery, renal artery and aortic aneurysm repair.

CABG = coronary artery bypass graft, PCI = percutaneous coronary intervention, iPTH = intact parathyroid hormone, FGF = fibroblast growth factor, BUN = blood urea nirogen, LDL = low density lipoprotein, HDL = high density lipoprotein, ACE = angiotensin converting enzyme

Supplementary Table S5: Hazard ratios of baseline covariates adjusted for the primary composite endpoint

		Parameter Estimate	SE	Chi-square Statistic	p-value	Hazard Ratio	95% CI
Treatment (Cinacalcet vs Placebo)		-0.097	0.056	3.02	0.082	0.907	(0.813, 1.013)
Age (years)		0.033	0.002	179.83	<0.001	1.034	(1.029, 1.039)
History of myocardial infarction		0.187	0.086	4.71	0.030	1.205	(1.018, 1.426)
History of coronary artery disease		0.299	0.077	15.24	<0.001	1.349	(1.161, 1.567)
History of cardiac arrhythmia[a]		0.252	0.074	11.69	<0.001	1.286	(1.113, 1.486)
Other cardiac disease history (valvular heart disease and angina)		0.250	0.069	13.28	<0.001	1.284	(1.122, 1.468)
History of stroke		0.161	0.088	3.38	0.066	1.175	(0.989, 1.396)
History of transient ischemic attack		0.293	0.120	5.96	0.015	1.341	(1.059, 1.696)
History of peripheral vascular disease		0.358	0.072	25.01	<0.001	1.430	(1.243, 1.645)
Baseline dialysis vintage (years)		0.018	0.006	8.98	0.003	1.018	(1.006, 1.030)
Baseline vitamin D use		-0.140	0.061	5.20	0.023	0.870	(0.771, 0.981)
Baseline statin use		-0.184	0.065	7.99	0.005	0.832	(0.732, 0.945)
Baseline serum calcification propensity per 1 SD decrease		0.139	0.031	20.64	<0.001	**1.149**	**(1.082, 1.220)**
Baseline HDL per 1 SD increase		0.054	0.028	3.61	0.058	1.055	(0.998, 1.116)
Baseline tobacco use (ref=never)	Current	0.512	0.079	42.32	<0.001	1.669	(1.430, 1.947)
	Former	0.127	0.066	3.72	0.054	1.135	(0.998, 1.291)
History of heart failure		0.180	0.070	6.63	0.010	1.197	(1.044, 1.372)

[a] History of cardiac arrhythmia includes chronic atrial fibrillation/flutter, paroxysmal atrial fibrillation, ventricular tachycardia/fibrillation, automatic implantable cardioverter-defibrillator, pacemaker.
p-value is from Cox proportional hazards regression model Results are stratified by country and history of diabetes from interactive voice response system. Models exclude CKD-MBD bone parameters and albumin, adjusted using a backwards elimination procedure at significance level of 0.10. The number of observations used: 2747

Supplementary Table S6: multivariable adjusted Cox regression analysis in which T50 was included as a categorical variable (quintiles)

Table 14-4.154.1. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to Primary Composite Endpoint (All-Cause Mortality, Myocardial Infarction, Hospitalization for Unstable Angina, Heart Failure or Peripheral Vascular Event) Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Placebo Subjects

		Parameter Estimate	SE	Chi-square Statistic	p-value	Hazard Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.636	0.141	20.42	<0.001	1.888	(1.433, 2.488)
	Lower middle quintile	0.447	0.136	10.75	0.001	1.564	(1.197, 2.044)
	Middle quintile	0.221	0.139	2.54	0.111	1.248	(0.950, 1.638)
	Upper middle quintile	0.111	0.146	0.57	0.449	1.117	(0.839, 1.487)
Age (years)		0.036	0.004	92.86	<0.001	1.037	(1.029, 1.045)
History of heart failure		0.306	0.102	8.99	0.003	1.358	(1.112, 1.658)
History of cardiac arrhythmia[a]		0.360	0.108	11.18	<0.001	1.434	(1.161, 1.771)
Other cardiac disease history (valvular heart disease and angina)		0.297	0.102	8.52	0.004	1.346	(1.103, 1.644)
History of transient ischemic attack		0.359	0.182	3.89	0.049	1.432	(1.002, 2.045)
History of peripheral vascular disease		0.367	0.107	11.84	<0.001	1.444	(1.171, 1.780)
History of revascularization[b]		0.322	0.109	8.78	0.003	1.380	(1.115, 1.707)
Baseline dialysis vintage (years)		0.023	0.009	7.48	0.006	1.024	(1.007, 1.041)
Baseline LDL per 1 SD increase		0.342	0.133	6.65	0.010	1.408	(1.086, 1.826)
Baseline HDL per 1 SD increase		0.171	0.051	11.39	<0.001	1.187	(1.075, 1.311)
Baseline total cholesterol per 1 SD increase		-0.491	0.139	12.43	<0.001	0.612	(0.466, 0.804)
Baseline tobacco use (ref=never)	Current	0.545	0.116	22.07	<0.001	1.725	(1.374, 2.165)
	Former	0.210	0.097	4.69	0.030	1.234	(1.020, 1.493)

Table 14-4.154.2. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to Primary Composite Endpoint (All-Cause Mortality, Myocardial Infarction, Hospitalization for Unstable Angina, Heart Failure or Peripheral Vascular Event) Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Cinacalcet Subjects

		Parameter Estimate	SE	Chi-square Statistic	p-value	Hazard Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.133	0.134	0.99	0.320	1.142	(0.879, 1.484)
	Lower middle quintile	0.168	0.133	1.58	0.208	1.182	(0.911, 1.535)
	Middle quintile	0.071	0.134	0.28	0.596	1.074	(0.825, 1.398)
	Upper middle quintile	-0.051	0.137	0.14	0.709	0.950	(0.727, 1.243)
Age (years)		0.031	0.003	84.80	<0.001	1.031	(1.025, 1.038)
Blood pressure - systolic per 10 mmHg		0.038	0.017	4.90	0.027	1.038	(1.004, 1.073)
History of coronary artery disease		0.512	0.101	25.45	<0.001	1.668	(1.367, 2.035)
History of cardiac arrhythmiaa		0.268	0.105	6.55	0.010	1.307	(1.065, 1.604)
Other cardiac disease history (valvular heart disease and angina)		0.268	0.097	7.61	0.006	1.307	(1.081, 1.581)
History of stroke		0.247	0.129	3.69	0.055	1.281	(0.995, 1.648)
History of transient ischemic attack		0.306	0.170	3.25	0.072	1.358	(0.973, 1.896)
History of peripheral vascular disease		0.321	0.105	9.35	0.002	1.379	(1.122, 1.694)
History of dyslipidemia		-0.199	0.091	4.83	0.028	0.819	(0.686, 0.979)
Baseline tobacco use (ref=never)	Current	0.510	0.113	20.20	<0.001	1.665	(1.333, 2.079)
	Former	0.026	0.094	0.08	0.779	1.027	(0.854, 1.235)

Table 14-4.154.3. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to All-cause Mortality Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Placebo Subjects

		Parameter Estimate	SE	Chi-square Statistic	p-value	Hazard Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.577	0.156	13.78	<0.001	1.781	(1.313, 2.416)
	Lower middle quintile	0.241	0.151	2.54	0.111	1.273	(0.946, 1.712)
	Middle quintile	0.163	0.153	1.14	0.286	1.177	(0.872, 1.588)
	Upper middle quintile	-0.019	0.166	0.01	0.908	0.981	(0.709, 1.358)
Age (years)		0.046	0.004	114.61	<0.001	1.047	(1.039, 1.056)
History of myocardial infarction		0.216	0.134	2.62	0.106	1.241	(0.955, 1.613)
History of heart failure		0.209	0.115	3.31	0.069	1.232	(0.984, 1.543)
History of cardiac arrhythmia[a]		0.387	0.118	10.69	0.001	1.472	(1.168, 1.857)
Other cardiac disease history (valvular heart disease and angina)		0.297	0.114	6.78	0.009	1.346	(1.076, 1.684)
History of transient ischemic attack		0.678	0.190	12.71	<0.001	1.971	(1.357, 2.861)
History of peripheral vascular disease		0.289	0.116	6.17	0.013	1.336	(1.063, 1.678)
Baseline dialysis vintage (years)		0.031	0.010	10.40	0.001	1.031	(1.012, 1.051)
Baseline LDL per 1 SD increase		0.372	0.152	5.98	0.014	1.450	(1.077, 1.954)
Baseline HDL per 1 SD increase		0.143	0.058	6.03	0.014	1.154	(1.029, 1.294)
Baseline total cholesterol per 1 SD increase		-0.538	0.159	11.43	<0.001	0.584	(0.427, 0.798)
Baseline tobacco use (ref=never)	Current	0.356	0.132	7.23	0.007	1.427	(1.101, 1.849)
	Former	0.072	0.110	0.44	0.508	1.075	(0.867, 1.333)

Table 14-4.154.4. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to All-cause Mortality□Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Cinacalcet Subjects

		Parameter□Estimate	SE	Chi-square□Statistic	p-value	Hazard□Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.134	0.156	0.74	0.390	1.143	(0.842, 1.552)
	Lower middle quintile	0.240	0.155	2.42	0.120	1.272	(0.939, 1.722)
	Middle quintile	0.063	0.158	0.16	0.690	1.065	(0.781, 1.453)
	Upper middle quintile	0.035	0.158	0.05	0.826	1.035	(0.760, 1.410)
Age (years)		0.041	0.004	111.45	<0.001	1.042	(1.034, 1.050)
BMI (kg/m^2)		-0.019	0.008	5.36	0.021	0.982	(0.966, 0.997)
History of myocardial infarction		0.297	0.124	5.71	0.017	1.346	(1.055, 1.717)
History of heart failure		0.334	0.111	9.05	0.003	1.397	(1.123, 1.736)
History of cardiac arrhythmia[a]		0.265	0.117	5.11	0.024	1.303	(1.036, 1.640)
History of stroke		0.308	0.144	4.54	0.033	1.361	(1.025, 1.806)
History of peripheral vascular disease		0.380	0.117	10.59	0.001	1.462	(1.163, 1.838)
Baseline tobacco use (ref=never)	Current	0.343	0.137	6.28	0.012	1.409	(1.078, 1.842)
	Former	0.075	0.108	0.48	0.489	1.078	(0.872, 1.333)

Table 14-4.154.5. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to Myocardial Infarction Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Placebo Subjects

		Parameter Estimate	SE	Chi-square Statistic	p-value	Hazard Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.907	0.294	9.55	0.002	2.477	(1.393, 4.405)
	Lower middle quintile	0.441	0.294	2.25	0.133	1.554	(0.874, 2.766)
	Middle quintile	0.069	0.316	0.05	0.828	1.071	(0.576, 1.990)
	Upper middle quintile	0.069	0.299	0.05	0.819	1.071	(0.596, 1.925)
Age (years)		0.035	0.008	20.96	<0.001	1.036	(1.020, 1.052)
History of myocardial infarction		0.404	0.233	3.01	0.083	1.497	(0.949, 2.363)
History of peripheral vascular disease		0.553	0.212	6.81	0.009	1.739	(1.148, 2.634)
Baseline dialysate calcium		0.515	0.253	4.16	0.041	1.674	(1.020, 2.748)
Baseline statin use		0.401	0.206	3.80	0.051	1.494	(0.998, 2.236)

Table 14-4.154.6. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to Myocardial Infarction□Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Cinacalcet Subjects

		Parameter□Estimate	SE	Chi-square□Statistic	p-value	Hazard□Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.792	0.303	6.84	0.009	2.208	(1.220, 3.998)
	Lower middle quintile	0.276	0.323	0.73	0.392	1.318	(0.700, 2.480)
	Middle quintile	0.147	0.329	0.20	0.656	1.158	(0.608, 2.207)
	Upper middle quintile	-0.024	0.317	0.01	0.940	0.976	(0.524, 1.818)
Age (years)		0.019	0.008	6.04	0.014	1.019	(1.004, 1.034)
Blood pressure - systolic per 10 mmHg		0.115	0.038	9.28	0.002	1.122	(1.042, 1.208)
History of coronary artery disease		0.823	0.205	16.16	<0.001	2.277	(1.525, 3.401)
History of transient ischemic attack		0.836	0.327	6.52	0.011	2.307	(1.214, 4.383)
History of peripheral vascular disease		0.556	0.215	6.67	0.010	1.744	(1.143, 2.661)
Baseline total cholesterol per 1 SD increase		0.233	0.094	6.10	0.013	1.263	(1.049, 1.519)
Baseline tobacco use (ref=never)	Current	0.510	0.246	4.31	0.038	1.666	(1.029, 2.697)
	Former	0.072	0.218	0.11	0.741	1.075	(0.701, 1.646)

Table 14-4.154.11. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to Peripheral Vascular Event Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Placebo Subjects

		Parameter Estimate	SE	Chi-square Statistic	p-value	Hazard Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.740	0.321	5.31	0.021	2.097	(1.117, 3.935)
	Lower middle quintile	0.652	0.296	4.84	0.028	1.920	(1.074, 3.433)
	Middle quintile	-0.062	0.330	0.04	0.851	0.940	(0.493, 1.793)
	Upper middle quintile	0.148	0.321	0.21	0.646	1.159	(0.617, 2.176)
Age (years)		0.024	0.009	7.56	0.006	1.024	(1.007, 1.042)
History of coronary artery disease		0.863	0.210	16.90	<0.001	2.371	(1.571, 3.578)
History of cardiac arrhythmia[a]		0.502	0.218	5.29	0.021	1.652	(1.077, 2.535)
History of peripheral vascular disease		1.189	0.198	36.12	<0.001	3.285	(2.229, 4.841)
Baseline dialysate calcium		0.401	0.251	2.55	0.110	1.493	(0.913, 2.442)
Baseline tobacco use (ref=never)	Current	0.591	0.254	5.42	0.020	1.805	(1.098, 2.967)
	Former	0.263	0.213	1.53	0.217	1.301	(0.857, 1.973)

Table 14-4.154.12. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to Peripheral Vascular Event Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Cinacalcet Subjects

		Parameter Estimate	SE	Chi-square Statistic	p-value	Hazard Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.268	0.332	0.65	0.419	1.308	(0.682, 2.505)
	Lower middle quintile	0.378	0.332	1.29	0.255	1.459	(0.761, 2.798)
	Middle quintile	-0.162	0.352	0.21	0.645	0.851	(0.427, 1.695)
	Upper middle quintile	0.115	0.332	0.12	0.729	1.122	(0.586, 2.149)
Race group (ref=White)	Black	0.330	0.293	1.27	0.259	1.391	(0.784, 2.468)
	Other	-0.875	0.394	4.93	0.026	0.417	(0.192, 0.902)
History of coronary artery disease		0.847	0.217	15.24	<0.001	2.333	(1.525, 3.571)
History of cardiac arrhythmia[a]		1.019	0.228	19.96	<0.001	2.769	(1.771, 4.329)
History of peripheral vascular disease		1.080	0.224	23.25	<0.001	2.945	(1.898, 4.568)
Baseline LDL per 1 SD increase		0.245	0.099	6.12	0.013	1.277	(1.052, 1.550)

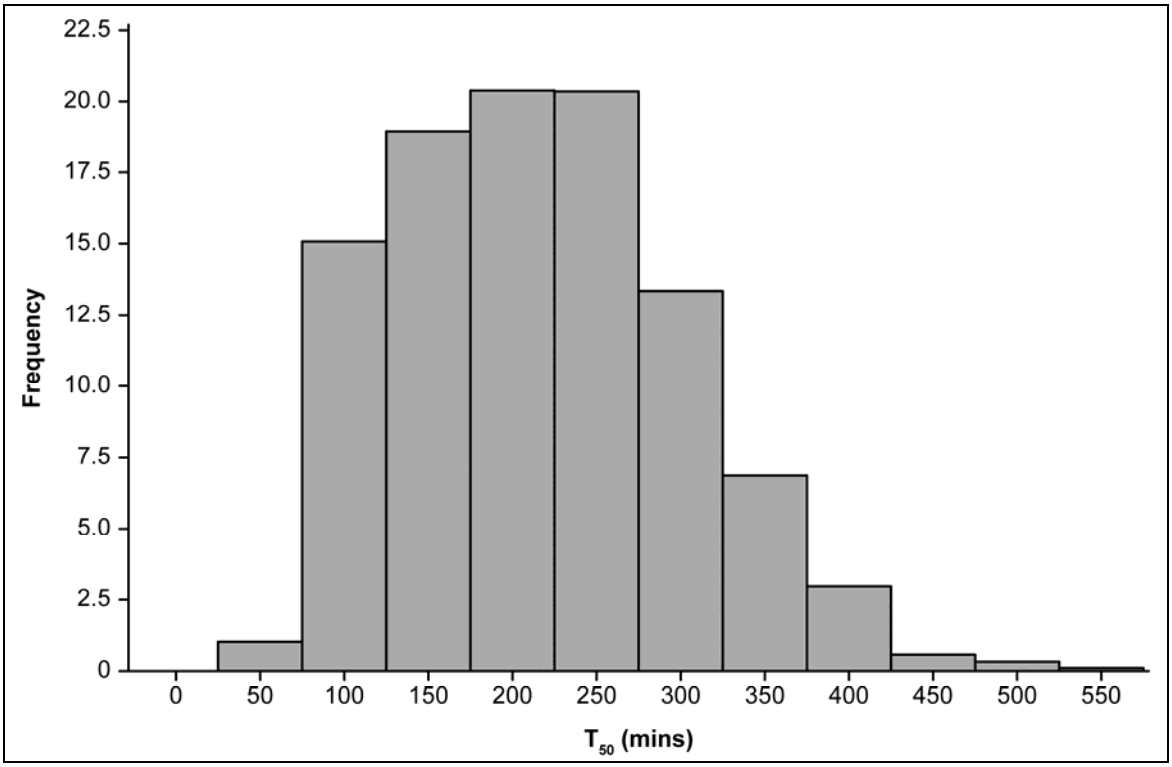
Table 14-4.154.15. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to Tertiary Cardiovascular Composite (Cardiovascular Mortality, Myocardial Infarction, Hospitalization for Unstable Angina and Heart Failure)□Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Placebo Subjects

		Parameter□Estimate	SE	Chi-square□Statistic	p-value	Hazard□Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.678	0.176	14.87	<0.001	1.970	(1.396, 2.781)
	Lower middle quintile	0.522	0.170	9.39	0.002	1.685	(1.207, 2.353)
	Middle quintile	0.337	0.174	3.75	0.053	1.401	(0.996, 1.971)
	Upper middle quintile	0.274	0.177	2.40	0.121	1.316	(0.930, 1.861)
Age (years)		0.034	0.004	59.32	<0.001	1.035	(1.026, 1.044)
History of myocardial infarction		0.270	0.146	3.44	0.064	1.310	(0.985, 1.743)
History of heart failure		0.282	0.123	5.21	0.022	1.325	(1.041, 1.688)
History of cardiac arrhythmia[a]		0.320	0.131	5.98	0.014	1.378	(1.066, 1.781)
Other cardiac disease history (valvular heart disease and angina)		0.502	0.121	17.38	<0.001	1.653	(1.305, 2.093)
History of revascularization[b]		0.214	0.130	2.73	0.099	1.239	(0.961, 1.598)
Baseline vitamin D use		-0.190	0.112	2.89	0.089	0.827	(0.664, 1.029)
Baseline LDL per 1 SD increase		0.367	0.161	5.18	0.023	1.443	(1.052, 1.979)
Baseline HDL per 1 SD increase		0.199	0.061	10.78	0.001	1.220	(1.084, 1.374)
Baseline total cholesterol per 1 SD increase		-0.582	0.167	12.12	<0.001	0.559	(0.403, 0.775)
Baseline tobacco use (ref=never)	Current	0.664	0.135	24.30	<0.001	1.943	(1.492, 2.530)

Table 14-4.154.16. Results from Stratified (Country and History of Diabetes) Multivariate (Excluding CKD-MBD Bone Parameters and Albumin) Model Using Backwards Selection Procedure at Significance Level of 0.10 on Time to Tertiary Cardiovascular Composite (Cardiovascular Mortality, Myocardial Infarction, Hospitalization for Unstable Angina and Heart Failure) Serum Calcification Propensity Assessed as Categorical (Quintiles) Variable; Cinacalcet Subjects

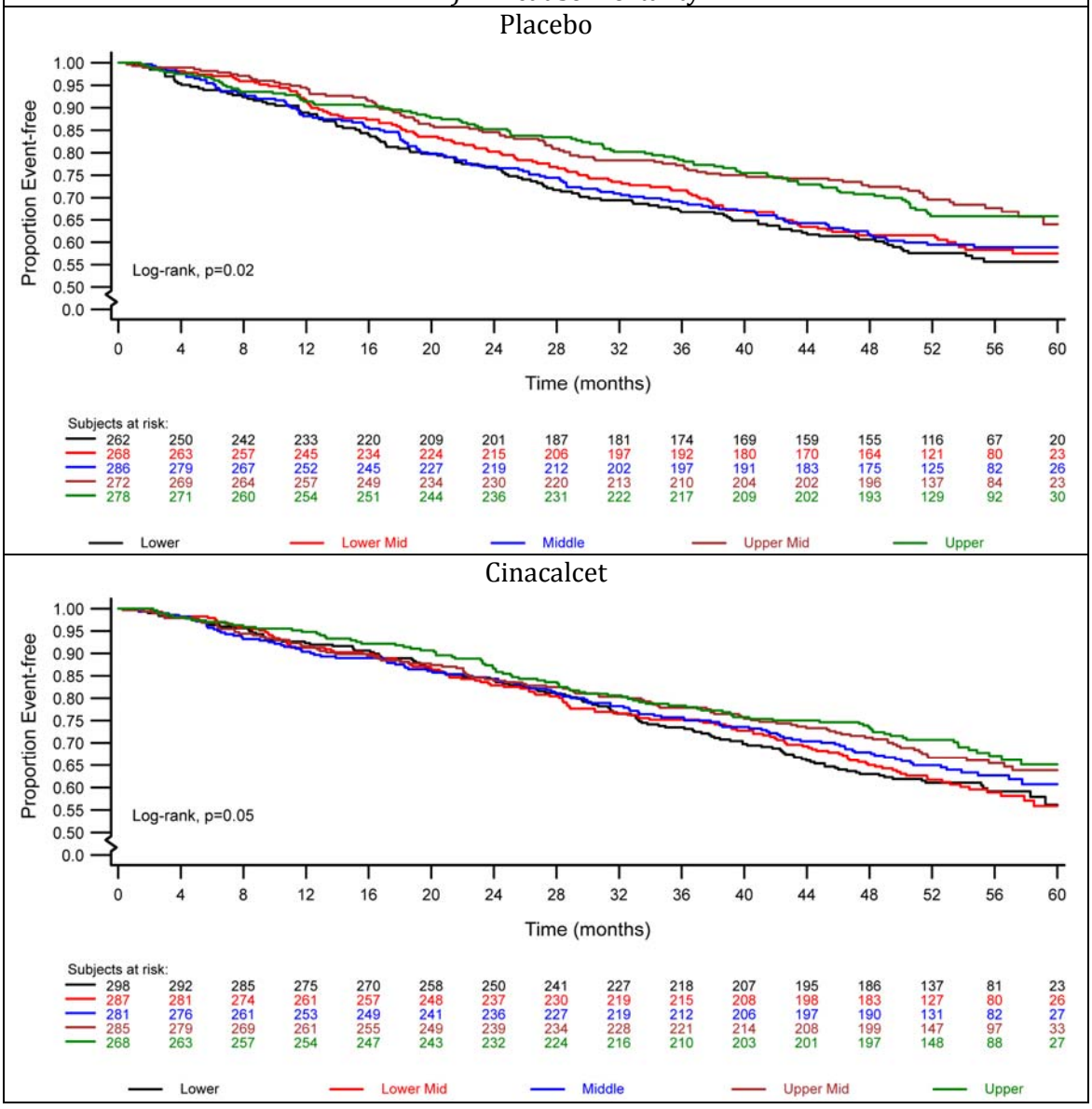
		Parameter Estimate	SE	Chi-square Statistic	p-value	Hazard Ratio	95% CI
Baseline serum calcification propensity quintiles (ref=Upper quintile)	Lower quintile	0.224	0.176	1.62	0.204	1.251	(0.886, 1.767)
	Lower middle quintile	0.319	0.173	3.39	0.066	1.376	(0.979, 1.932)
	Middle quintile	0.209	0.176	1.40	0.236	1.232	(0.872, 1.741)
	Upper middle quintile	-0.191	0.184	1.08	0.299	0.826	(0.576, 1.185)
Age (years)		0.029	0.004	47.46	<0.001	1.030	(1.021, 1.038)
BMI (kg/m^2)		-0.014	0.008	2.73	0.099	0.986	(0.970, 1.003)
Blood pressure - systolic per 10 mmHg		0.077	0.021	13.28	<0.001	1.080	(1.036, 1.126)
History of heart failure		0.260	0.122	4.57	0.033	1.297	(1.022, 1.646)
History of coronary artery disease		0.598	0.119	25.17	<0.001	1.818	(1.439, 2.296)
History of transient ischemic attack		0.407	0.222	3.37	0.066	1.502	(0.973, 2.319)
History of peripheral vascular disease		0.275	0.130	4.49	0.034	1.317	(1.021, 1.698)
Baseline calcium-containing phosphate binder use		-0.225	0.110	4.16	0.041	0.798	(0.643, 0.991)
Baseline LDL per 1 SD increase		0.120	0.054	4.98	0.026	1.127	(1.015, 1.253)
Baseline tobacco use (ref=never)	Current	0.616	0.145	18.14	<0.001	1.852	(1.395, 2.460)
	Former	0.117	0.120	0.96	0.328	1.125	(0.889, 1.423)

Suppl. Figure S1: Distribution of T_{50} values in the EVOLVE study at baseline



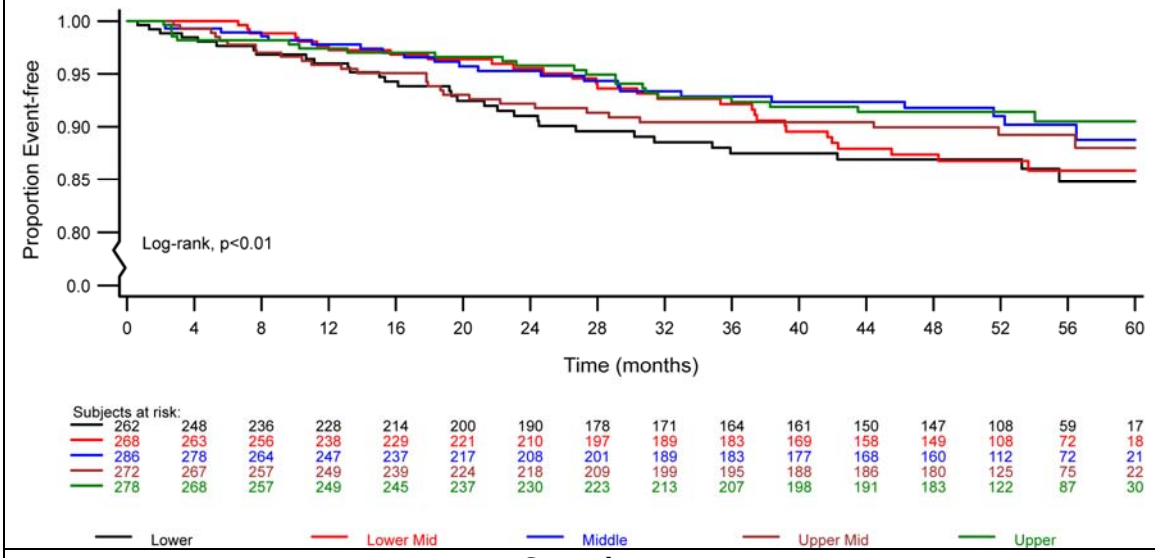
Suppl. Figure S2: Kaplan Meier plots of a) all-cause mortality b) myocardial infarction c) peripheral vascular event and d) tertiary cardiovascular composite endpoint by T_{50} quintiles within each treatment group.

A) All-cause Mortality



B) Myocardial Infarction

Placebo

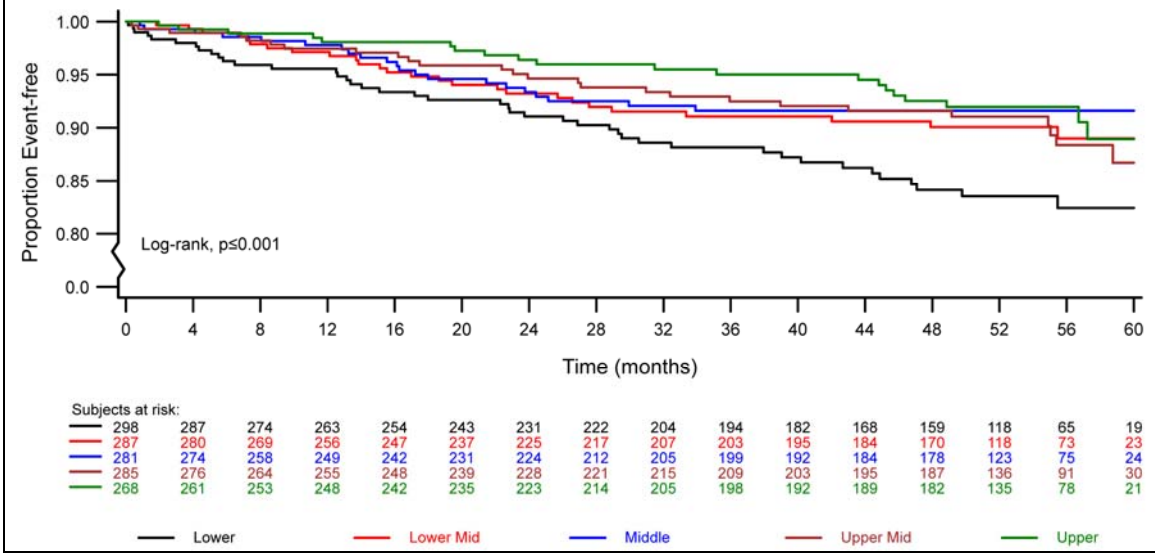


Subjects at risk:

262	248	236	228	214	200	190	178	171	164	161	150	147	108	59	17
268	263	256	238	229	221	210	197	189	183	169	158	149	108	72	18
286	278	264	247	237	217	208	201	189	183	177	168	160	112	72	21
272	267	257	249	239	224	218	209	199	195	188	186	180	125	75	22
278	268	257	249	245	237	230	223	213	207	198	191	183	122	87	30

Lower Lower Mid Middle Upper Mid Upper

Cinacalcet



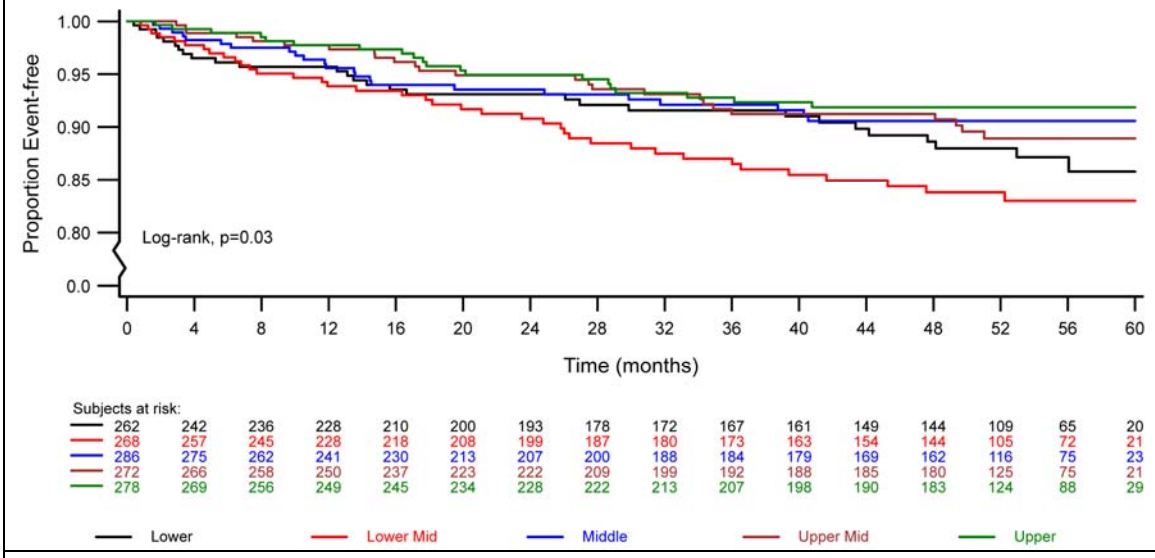
Subjects at risk:

298	287	274	263	254	243	231	222	204	194	182	168	159	118	65	19
287	280	269	256	247	237	225	217	207	203	195	184	170	118	73	23
281	274	258	249	242	231	224	212	205	199	192	184	178	123	75	24
285	276	264	255	248	239	228	221	215	209	203	195	187	136	91	30
268	261	253	248	242	235	223	214	205	198	192	189	182	135	78	21

Lower Lower Mid Middle Upper Mid Upper

C) Peripheral Vascular Event

Placebo



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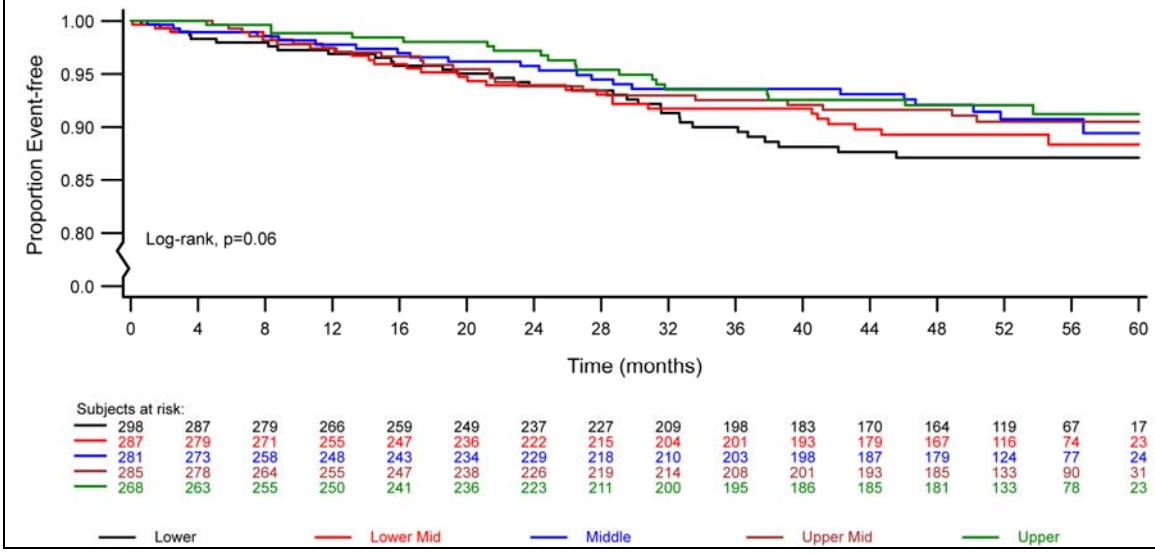
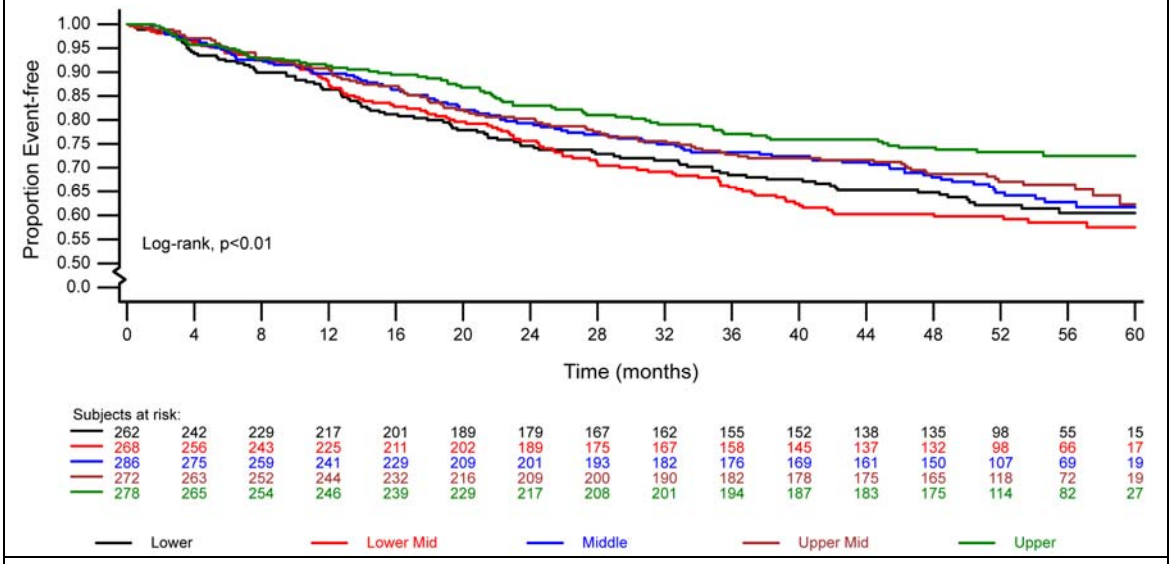


D) Tertiary Cardiovascular Composite

Placebo



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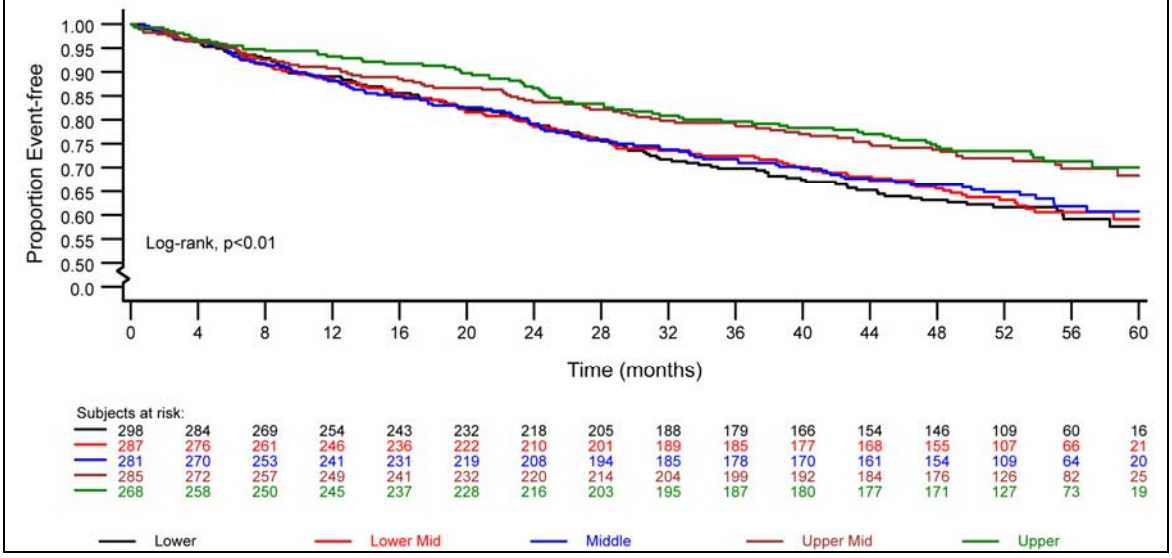
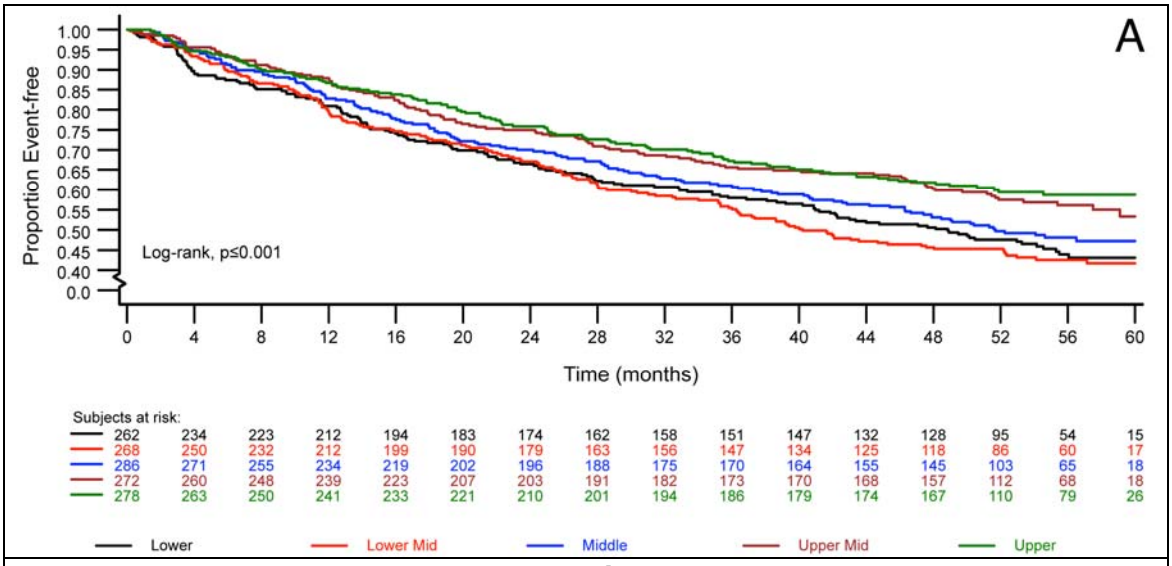


A) Primary Composite Endpoint

Placebo



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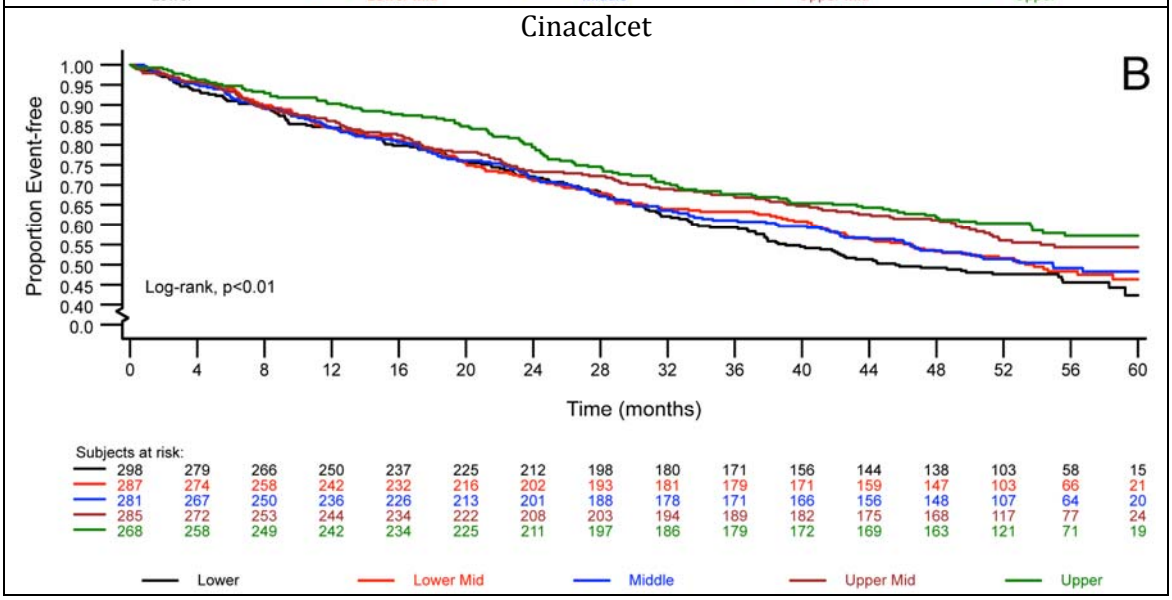
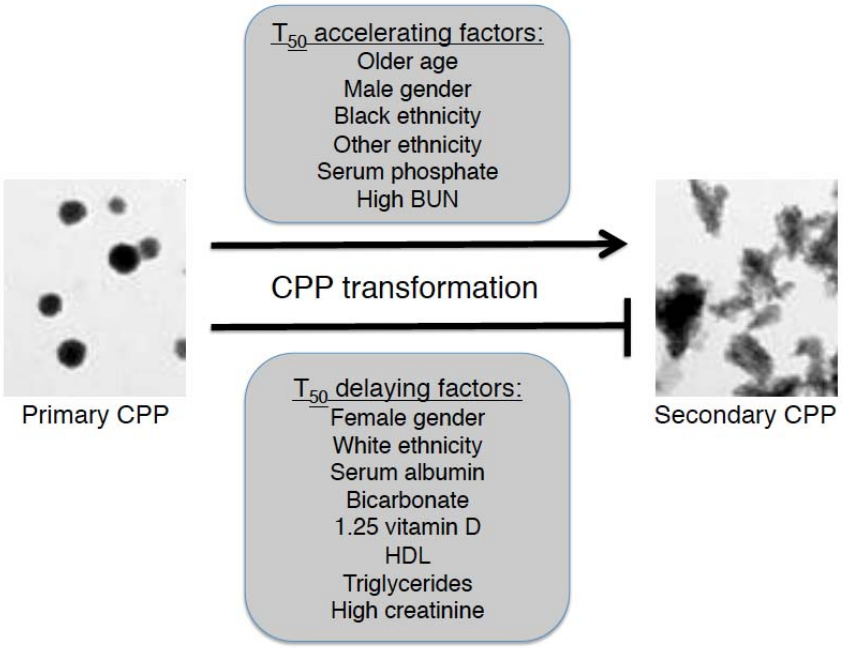


The following table lists the precise log-rank p-values of the Kaplan Meier Curves shown above.

	Cinacalcet group	Placebo group	Whole T_{50} cohort
Primary composite endpoint	0.005	<0.001	<0.001
All-cause mortality	0.052	0.015	<0.001
Myocardial infarction	<0.001	0.007	<0.001
Unstable angina	0.095	0.979	0.256
Heart failure	0.848	0.246	0.395
Peripheral vascular events	0.059	0.025	<0.001
CV mortality	0.072	0.108	0.009
Stroke	0.119	0.149	0.037
Bone fractures	0.110	0.220	0.034
Parathyroidectomy	0.134	0.035	0.019
Tertiary CV composite endpoint	0.003	0.002	<0.001

Suppl. Figure S3: Schematic representation of the T_{50} test and influencing factors in the current study.



Suppl. Figure S4: Schematic representation of the T_{50} test and influencing factors in the current study.
Concentrated calcium solution, serum and concentrated phosphate solution are mixed at room temperature. This leads to the spontaneous formation of primary calciprotein particles (CPP). Incubation at 37°C induces the spontaneous transformation of prim.CPP to sec.CPP. The time point of this transformation depends on the calcification resistive forces of the tested serum. The transformation time point is currently measured nephelometrically. Earlier precipitation /transformation indicates low calcification resistance and is associated with worse clinical outcome. Later precipitation / transformation indicates high calcification resistance and is associated with better clinical outcome. Outcome associated with T_{50} so far in kidney patients: all-cause mortality, cardiovascular mortality, renal graft failure, myocardial infarction, peripheral vascular events, progression of pulse wave velocity acceleration. For further detailed information about the T_{50} test, please refer to Pasch et al., JASN , 2012. The term „calcification propensity" more precisely refers to the ability of serum to delay the formation of sec.CPP (nanocrystals) in the in vitro setting.