Supplementary Table S1. Multivariable association of a 1-SD increase in FG-SD with CAC progression over 10 years among individuals in the CARDIA study

Model	% CAC progression per 1-SD increase in FG-SD (95% CI)	*P* value
Incident CAC* (>0 Agatston units), N=2,062		
Model 1	11.1 (8.2, 14.0)	<0.001
Model 2	10.6 (7.8, 13.4)	<0.001
Model 3	8.1 (5.4, 10.9)	<0.001
Model 4	8.6 (4.9, 12.2)	0.019
Model 4A	8.0 (4.3, 11.6)	0.030
Model 4B	8.6 (5.0, 12.3)	0.018
Any CAC progression† (>0 Agatston units), N=2,256		
Model 1	10.9 (8.3, 13.5)	<0.001
Model 2	10.5 (7.9, 13.0)	<0.001
Model 3	7.7 (5.3, 10.1)	<0.001
Model 4	9.5 (6.2, 12.9)	0.005
Model 4A	8.9 (5.6, 12.3)	0.008
Model 4B	9.8 (6.4, 13.1)	0.004
Model 4C	9.2 (5.9, 12.5)	0.006

A 1-SD unit increment in FG-SD is 15.7 mg/dL. Model 1, unadjusted; Model 2, adjusted for age, race and sex; Model 3, adjusted for variables in model 2 plus BMI, current smoker status (yes/no), milliliter of daily alcohol consumption, SBP, antihypertensive medication use (yes/no), physical activity, serum creatinine, total cholesterol and LDL-C; Model 4, adjusted for variables in model 3 plus average of FG and change in FG level during variability measurement; Model 4A, adjusted for variables in model 4 plus incidence of diabetes and diabetes medication use; Model 4B, adjusted for variables in model 4 plus FG level at year 25. Model 4C, for individuals with any CAC progression, adjusted for variables in model 4 plus baseline CAC. *Evaluated only among individuals without baseline CAC at the year 15 examination. †CAC progression was calculated as the difference of logarithmic CAC score at follow-up and baseline (log [CAC (follow-up) + 1] - log [CAC (baseline) + 1]). FG-SD, the standard deviation of fasting glucose.

Supplementary Table S2. Multivariable association of a 1-SD increase in FG-ARV with CAC progression over 10 years among individuals in the CARDIA study

Model	% CAC progression per 1-SD increase in FG-ARV (95% CI)	*P* value
Incident CAC* (>0 Agatston units), N=2,062		
Model 1	11.2 (8.3, 14.1)	<0.001
Model 2	10.9 (8.1, 13.7)	<0.001
Model 3	8.5 (5.9, 11.2)	<0.001
Model 4	5.6 (3.3, 7.9)	0.016
Model 4A	5.2 (2.9, 7.6)	0.027
Model 4B	5.7 (3.3, 8.0)	0.016
Any CAC progression† (>0 Agatston units), N=2,256		
Model 1	11.2 (8.6, 13.9)	<0.001
Model 2	10.9 (8.4, 13.5)	<0.001
Model 3	8.2 (5.8, 10.7)	<0.001
Model 4	6.2 (4.0, 8.3)	0.004
Model 4A	5.8 (3.6, 8.0)	0.008
Model 4B	6.4 (4.2, 8.6)	0.003
Model 4C	6.0 (3.8, 8.1)	0.005

A 1-SD unit increment in FG-ARV is 19.2 mg/dL per year. Model 1, unadjusted; Model 2, adjusted for age, race and sex; Model 3, adjusted for variables in model 2 plus BMI, current smoker status (yes/no), milliliter of daily alcohol consumption, SBP, antihypertensive medication use (yes/no), physical activity, serum creatinine, total cholesterol and LDL-C; Model 4, adjusted for variables in model 3 plus average of FG and change in FG level during variability measurement; Model 4A, adjusted for variables in model 4 plus incidence of diabetes and diabetes medication use; Model 4B, adjusted for variables in model 4 plus FG level at year 25. Model 4C, for individuals with any CAC progression, adjusted for variables in model 4 plus baseline CAC. *Evaluated only among individuals without baseline CAC at the year 15 examination. †CAC progression was calculated as the difference of logarithmic CAC score at follow-up and baseline (log [CAC (follow-up) + 1] - log [CAC (baseline) + 1]). FG-ARV, the average real variability of fasting glucose.

Supplementary Table S3. Multivariable association between FG-CV during young adulthood and CAC progression in middle age: CAC progression estimated by CAC volume score

Model	% CAC progression per 1-SD increase in FG-CV (95% CI)	*P* value
Incident CAC* (>0 volume score), N=2,023		
Model 1	8.3 (5.6, 11.1)	<0.001
Model 2	8.1 (5.4, 10.8)	<0.001
Model 3	5.9 (3.3, 8.5)	<0.001
Model 4	6.0 (1.0, 11.1)	0.016
Model 4A	5.3 (0.9, 9.8)	0.035
Model 4B	5.8 (1.3, 10.3)	0.021
Any CAC progression† (>0 volume score), N=2,256		
Model 1	8.1 (5.7, 10.5)	<0.001
Model 2	7.9 (5.6, 10.3)	<0.001
Model 3	5.6 (3.3, 7.9)	<0.001
Model 4	6.6 (2.7, 10.5)	0.003
Model 4A	5.8 (1.6, 9.9)	0.009
Model 4B	6.7 (2.7, 10.6)	0.002
Model 4C	6.6 (2.6, 10.6)	0.002

A 1-SD unit increment in FG-CV is 9.3%. Model 1, unadjusted; Model 2, adjusted for age, race and sex; Model 3, adjusted for variables in model 2 plus BMI, current smoker status (yes/no), milliliter of daily alcohol consumption, SBP, antihypertensive medication use (yes/no), physical activity, serum creatinine, total cholesterol and LDL-C; Model 4, adjusted for variables in model 3 plus average of FG and change in FG level during variability measurement; Model 4A, adjusted for variables in model 4 plus incidence of diabetes and diabetes medication use; Model 4B, adjusted for variables in model 4 plus FG level at year 25. Model 4C, for individuals with any CAC progression, adjusted for variables in model 4 plus baseline CAC. *Evaluated only among individuals without baseline CAC at the year 15 examination. †CAC progression was calculated as the difference of logarithmic CAC volume score at follow-up and baseline (log [CAC (follow-up) + 1] - log [CAC (baseline) + 1]).

Supplementary Table S4. Multivariable association between FG-SD during young adulthood and CAC progression in middle age: CAC progression estimated by CAC volume score

Model	% CAC progression per 1-SD increase in FG-SD (95% CI)	*P* value
Incident CAC* (>0 volume score), N=2,023		
Model 1	9.9 (7.1, 12.8)	<0.001
Model 2	9.5 (6.7, 12.3)	<0.001
Model 3	7.1 (4.4, 9.8)	<0.001
Model 4	8.1 (4.7, 11.6)	0.017
Model 4A	7.5 (4.0, 10.9)	0.030
Model 4B	7.8 (4.3, 11.2)	0.024
Any CAC progression† (>0 volume score), N=2,256		
Model 1	9.0 (6.6, 11.4)	<0.001
Model 2	8.5 (6.2, 10.9)	<0.001
Model 3	6.2 (3.9, 8.4)	<0.001
Model 4	8.6 (5.5, 11.7)	0.006
Model 4A	7.9 (4.8, 11.0)	0.012
Model 4B	8.8 (5.6, 11.9)	0.005
Model 4C	8.4 (5.3, 11.5)	0.007

A 1-SD unit increment in FG-SD is 15.7 mg/dL. Model 1, unadjusted; Model 2, adjusted for age, race and sex; Model 3, adjusted for variables in model 2 plus BMI, current smoker status (yes/no), milliliter of daily alcohol consumption, SBP, antihypertensive medication use (yes/no), physical activity, serum creatinine, total cholesterol and LDL-C; Model 4, adjusted for variables in model 3 plus average of FG and change in FG level during variability measurement; Model 4A, adjusted for variables in model 4 plus incidence of diabetes and diabetes medication use; Model 4B, adjusted for variables in model 4 plus FG level at year 25. Model 4C, for individuals with any CAC progression, adjusted for variables in model 4 plus baseline CAC. *Evaluated only among individuals without baseline CAC at the year 15 examination. †CAC progression was calculated as the difference of logarithmic CAC volume score at follow-up and baseline (log [CAC (follow-up) + 1] - log [CAC (baseline) + 1]).

Supplementary Table S5. Multivariable association between FG-ARV during young adulthood and CAC progression in middle age: CAC progression estimated by CAC volume score

Model	% CAC progression per 1-SD increase in FG-ARV (95% CI)	*P* value
Incident CAC* (>0 Agatston units), N=2,023		
Model 1	9.8 (7.0, 12.6)	<0.001
Model 2	9.6 (6.8, 12.3)	<0.001
Model 3	7.4 (6.0, 8.8)	<0.001
Model 4	5.2 (3.0, 7.4)	0.017
Model 4A	4.8 (2.6, 7.0)	0.031
Model 4B	4.9 (2.7, 7.1)	0.025
Any CAC progression† (>0 Agatston units), N=2,256		
Model 1	9.3 (6.9, 11.7)	<0.001
Model 2	9.0 (6.6, 11.3)	<0.001
Model 3	6.7 (4.3, 9.0)	<0.001
Model 4	5.4 (3.4, 7.4)	0.008
Model 4A	4.9 (2.9, 6.9)	0.015
Model 4B	5.5 (3.5, 7.5)	0.007
Model 4C	5.2 (3.2, 7.2)	0.009

A 1-SD unit increment in FG-ARV is 19.2 mg/dL per year. Model 1, unadjusted; Model 2, adjusted for age, race and sex; Model 3, adjusted for variables in model 2 plus BMI, current smoker status (yes/no), milliliter of daily alcohol consumption, SBP, antihypertensive medication use (yes/no), physical activity, serum creatinine, total cholesterol and LDL-C; Model 4, adjusted for variables in model 3 plus average of FG and change in FG level during variability measurement; Model 4A, adjusted for variables in model 4 plus incidence of diabetes and diabetes medication use; Model 4B, adjusted for variables in model 4 plus FG level at year 25. Model 4C, for individuals with any CAC progression, adjusted for variables in model 4 plus baseline CAC. *Evaluated only among individuals without baseline CAC at the year 15 examination. †CAC progression was calculated as the difference of logarithmic CAC volume score at follow-up and baseline (log [CAC (follow-up) + 1] - log [CAC (baseline) + 1]).

Supplementary Table S6. Multivariable association between fasting glucose variation during study participants with CAC progression over 10 years (2000-2010) stratified by diabetes status

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
% CAC progression per 1-SD increase in FG-CV (95% CI)						
Incident CAC*						
Diabetes, n=129	10.8 (2.7, 18.8)	7.3 (-0.3, 14.9)	6.8 (-0.8, 14.4)	3.4 (-9.6, 16.3)	-2.7 (-14.0, 8.7)	
No Diabetes, n=1,933	6.7 (3.4, 10.0)	6.9 (3.7, 10.2)	4.8 (1.6, 7.9)	6.4 (0.7, 12.1)	3.4 (-0.1, 6.8)	
P for interaction=0.268						
Any CAC progression†						
Diabetes, n=148	9.5 (2.3, 16.6)	7.6 (0.9, 14.2)	6.7 (0.0, 13.4)	2.0 (-9.6, 13.5)	-2.3 (-11.8, 7.2)	2.0 (-9.5, 13.5)
No Diabetes, n=2,108	7.9 (4.8, 11.0)	8.2 (5.2, 11.3)	5.8 (2.8, 8.7)	7.6 (2.5, 12.8)	4.4 (0.7, 8.0)	7.9 (2.9, 12.9)
P for interaction=0.642						
% CAC progression per 1-SD increase in FG-SD (95% CI)						
Incident CAC*						
Diabetes, n=129	11.1 (3.8, 18.4)	7.9 (1.0, 14.9)	6.8 (-0.1, 13.8)	2.9 (-14.8, 20.7)	-4.4 (-17.8, 9.0)	
No Diabetes, n=1,933	9.0 (5.5, 12.5)	8.9 (5.5, 12.4)	6.5 (3.3, 9.6)	9.7 (5.6, 13.8)	4.7 (2.0, 7.4)	
P for interaction=0.552						
Any CAC progression†						
Diabetes, n=148	10.4 (3.8, 16.9)	8.6 (2.5, 14.7)	7.4 (1.2, 13.6)	1.4 (-14.1, 17.0)	-3.7 (-15.2, 7.9)	1.3 (-14.2, 16.8)
No Diabetes, n=2,108	9.5 (6.4, 12.7)	9.5 (6.4, 12.5)	6.8 (3.8, 9.8)	11.6 (7.7, 15.4)	5.6 (1.0, 10.2)	11.0 (7.2, 14.8)
P for interaction=0.798						
% CAC progression per 1-SD increase in FG-ARV (95% CI)						
Incident CAC*						
Diabetes, n=129	11.6 (3.8, 19.5)	9.2 (1.8, 16.5)	8.1 (0.7, 15.5)	2.4 (-9.4, 14.2)	0.4 (-11.3, 12.1)	
No Diabetes, n=1,933	9.2 (5.8, 12.5)	9.2 (5.9, 12.5)	6.9 (3.7, 10.2)	6.2 (3.6, 8.8)	4.4 (-0.3, 9.1)	
P for interaction=0.499						
Any CAC progression†						
Diabetes, n=148	11.0 (4.2, 17.7)	9.7 (3.4, 15.9)	8.2 (1.8, 14.6)	1.6 (-8.6, 11.8)	0.4 (-9.8, 10.6)	1.7 (-8.5, 11.9)

No Diabetes, n=2,108	9.9 (6.8, 12.9)	9.9 (6.9, 12.9)	7.4 (4.6, 10.3)	7.4 (5.0, 9.9)	5.5 (3.2, 7.8)	7.1 (4.7, 9.6)
P for interaction=0.738						

Model 1, unadjusted; Model 2, adjusted for age, sex and race; Model 3, adjusted for variables in model 2 plus BMI, current smoker status (yes/no), milliliter of daily alcohol consumption, SBP, antihypertensive medication use (yes/no), physical activity, serum creatinine, total cholesterol and LDL-C; Model 4, adjusted for variables in model 3 plus average of FG and change in FG level during variability measurement; Model 5 for individuals with diabetes, adjusted for variables in model 4 plus diabetes medication use before CAC assessment at year 25; Model 5 for individuals without diabetes, adjusted for variables in model 4 plus FG level at year 25. Model 6, for individuals with any CAC progression, adjusted for variables in model 4 plus baseline CAC. *Evaluated only among individuals without baseline CAC at the year 15 examination. †CAC progression was calculated as the difference of logarithmic CAC score at follow-up and baseline (log [CAC (follow-up) + 1] - log [CAC (baseline) + 1]).

Supplementary Table S7. Multivariable association between fasting glucose variation during study participants with CAC progression over 10 years (2000-2010) stratified by sex category

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
% CAC progression per 1-SD increase in FG-CV (95% CI)						
Incident CAC*						
Male, n=860	9.8 (4.9, 14.7)	10.8 (6.0, 15.7)	8.3 (3.4, 13.1)	3.5 (-6.2, 13.2)	1.9 (-7.9, 11.7)	
Female, n=1,202	8.1 (5.0, 11.2)	7.6 (4.5, 10.8)	5.2 (2.1, 8.3)	9.5 (6.6, 12.5)	8.9 (5.9, 11.9)	
P for interaction=0.539						
Any CAC progression†						
Male, n=998	8.3 (3.9, 12.7)	9.0 (4.7, 13.3)	6.7 (2.3, 11.0)	3.2 (-4.7, 11.1)	1.8 (-6.4, 10.0)	3.6 (-4.3, 11.5)
Female, n=1,258	10.1 (7.1, 13.0)	9.7 (6.7, 12.7)	6.8 (3.8, 9.7)	11.0 (8.3, 13.8)	10.8 (6.6, 15.1)	10.4 (5.0, 15.7)
P for interaction=0.499						
% CAC progression per 1-SD increase in FG-SD (95% CI)						
Incident CAC*						
Male, n=860	11.4 (6.5, 16.3)	12.2 (7.4, 17.0)	9.4 (4.8, 14.1)	1.9 (-6.7, 10.4)	-0.3 (-8.0, 7.5)	
Female, n=1,202	9.5 (6.3, 12.8)	9.1 (5.8, 12.4)	6.5 (3.1, 9.9)	13.5 (9.8, 17.3)	12.8 (9.1, 16.6)	
P for interaction=0.508						
Any CAC progression†						
Male, n=998	9.5 (5.3, 13.6)	9.9 (5.9, 14.0)	7.3 (6.0, 8.7)	2.5 (-4.1, 9.1)	1.2 (-5.4, 7.8)	2.6 (-4.0, 9.1)
Female, n=1,258	11.1 (8.0, 14.2)	10.7 (7.6, 13.9)	7.6 (4.6, 10.7)	14.3 (10.7, 17.9)	13.9 (10.3, 17.5)	13.3 (9.7, 16.9)
P for interaction=0.518						
% CAC progression per 1-SD increase in FG-ARV (95% CI)						
Incident CAC*						
Male, n=860	11.8 (6.5, 17.1)	12.7 (7.5, 18.0)	9.8 (4.7, 14.9)	1.5 (-7.9, 10.8)	0.1 (-2.6, 2.7)	
Female, n=1,202	9.9 (6.8, 12.9)	9.5 (6.5, 12.6)	7.3 (5.0, 9.7)	8.8 (6.4, 11.2)	8.3 (5.9, 10.8)	
P for interaction=0.509						
Any CAC progression†						
Male, n=998	10.1 (5.6, 14.6)	10.6 (6.2, 15.0)	7.7 (5.5, 10.0)	1.6 (-2.7, 5.8)	0.7 (-3.6, 5.0)	1.6 (-2.7, 5.8)

Female, n=1,258	11.3 (8.4, 14.2)	11.0 (8.1, 13.9)	8.2 (5.4, 11.1)	9.3 (7.0, 11.6)	9.0 (6.7, 11.3)	8.8 (6.5, 11.1)
P for interaction=0.649						

Model 1, unadjusted; Model 2, adjusted for age and race; Model 3, adjusted for variables in model 2 plus BMI, current smoker status (yes/no), milliliter of daily alcohol consumption, SBP, antihypertensive medication use (yes/no), physical activity, serum creatinine, total cholesterol and LDL-C; Model 4, adjusted for variables in model 3 plus average of FG and change in FG level during variability measurement; Model 5, adjusted for variables in model 4 plus incidence of diabetes and diabetes medication use;. Model 6, for individuals with any CAC progression, adjusted for variables in model 4 plus baseline CAC. *Evaluated only among individuals without baseline CAC at the year 15 examination. †CAC progression was calculated as the difference of logarithmic CAC score at follow-up and baseline (log [CAC (follow-up) + 1] - log [CAC (baseline) + 1]).

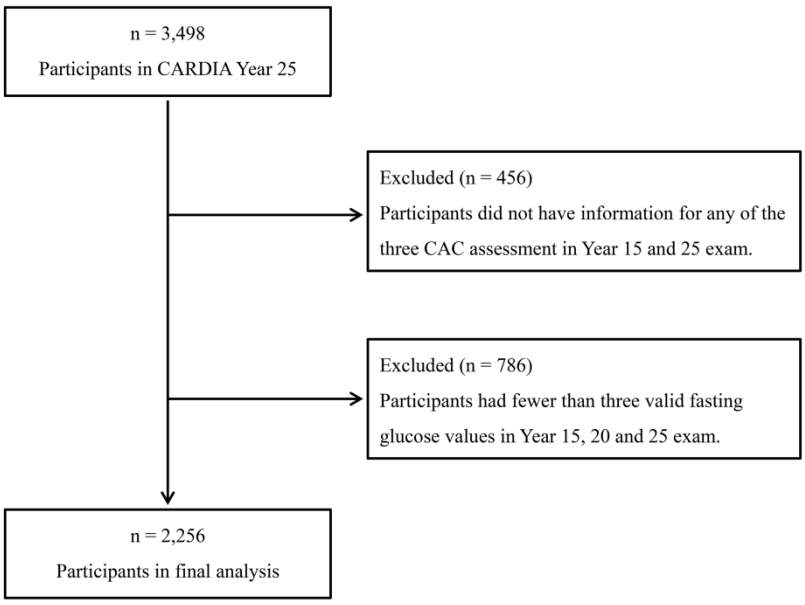
Supplementary Table S8. Multivariable association between fasting glucose variation during study participants with CAC progression over 10 years (2000-2010) stratified by race category

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
% CAC progression per 1-SD increase in FG-CV (95% CI)						
Incident CAC*						
Black, n=914	8.3 (4.8, 11.7)	7.8 (4.4, 11.2)	5.9 (2.4, 9.4)	4.0 (-2.2, 10.3)	3.6 (-2.8, 10.0)	
White, n=1,148	12.9 (8.1, 17.6)	11.2 (6.6, 15.7)	9.7 (5.2, 14.2)	6.4 (-3.2, 16.0)	5.9 (-3.7, 15.5)	
P for interaction=0.122						
Any CAC progression†						
Black, n=975	8.5 (5.1, 11.8)	8.0 (4.8, 11.3)	6.3 (2.9, 9.6)	3.8 (-2.4, 10.0)	3.2 (-3.0, 9.5)	4.7 (-1.5, 10.9)
White, n=1,281	12.9 (8.7, 17.1)	11.3 (7.3, 15.3)	9.1 (5.4, 12.7)	9.8 (2.3, 17.3)	8.8 (2.6, 15.0)	9.3 (1.7, 16.8)
P for interaction=0.1						
% CAC progression per 1-SD increase in FG-SD (95% CI)						
Incident CAC*						
Black, n=914	9.3 (5.9, 12.7)	8.9 (5.5, 12.2)	7.5 (4.0, 10.9)	5.6 (-2.5, 13.6)	5.2 (-2.9, 13.3)	
White, n=1,148	16.9 (11.6, 22.2)	14.2 (9.2, 19.3)	12.1 (7.0, 17.2)	8.5 (-7.3, 13.8)	8.7 (-7.0, 24.3)	
P for interaction=0.017						
Any CAC progression†						
Black, n=975	9.5 (6.2, 12.7)	9.1 (5.9, 12.3)	7.7 (4.4, 10.9)	5.3 (-2.7, 13.3)	4.8 (-3.3, 12.8)	6.1 (-1.8, 14.1)
White, n=1,281	14.7 (10.4, 18.9)	12.3 (8.2, 16.4)	9.6 (5.3, 14.0)	13.2 (7.0, 19.3)	12.7 (6.6, 18.9)	11.5 (5.3, 17.6)
P for interaction=0.048						
% CAC progression per 1-SD increase in FG-ARV (95% CI)						
Incident CAC*						
Black, n=914	9.5 (6.2, 12.8)	9.2 (5.9, 12.4)	7.7 (4.4, 11.0)	3.6 (-1.6, 8.7)	3.4 (-1.9, 8.6)	
White, n=1,148	17.9 (12.3, 23.5)	15.3 (9.9, 20.7)	13.1 (7.6, 18.6)	6.7 (-3.5, 16.9)	6.8 (-3.4, 17.0)	
P for interaction=0.011						
Any CAC progression†						
Black, n=975	9.6 (6.4, 12.8)	9.4 (6.2, 12.5)	7.9 (4.7, 11.1)	3.4 (-1.7, 8.5)	3.1 (-2.1, 8.2)	4.0 (-1.1, 9.1)

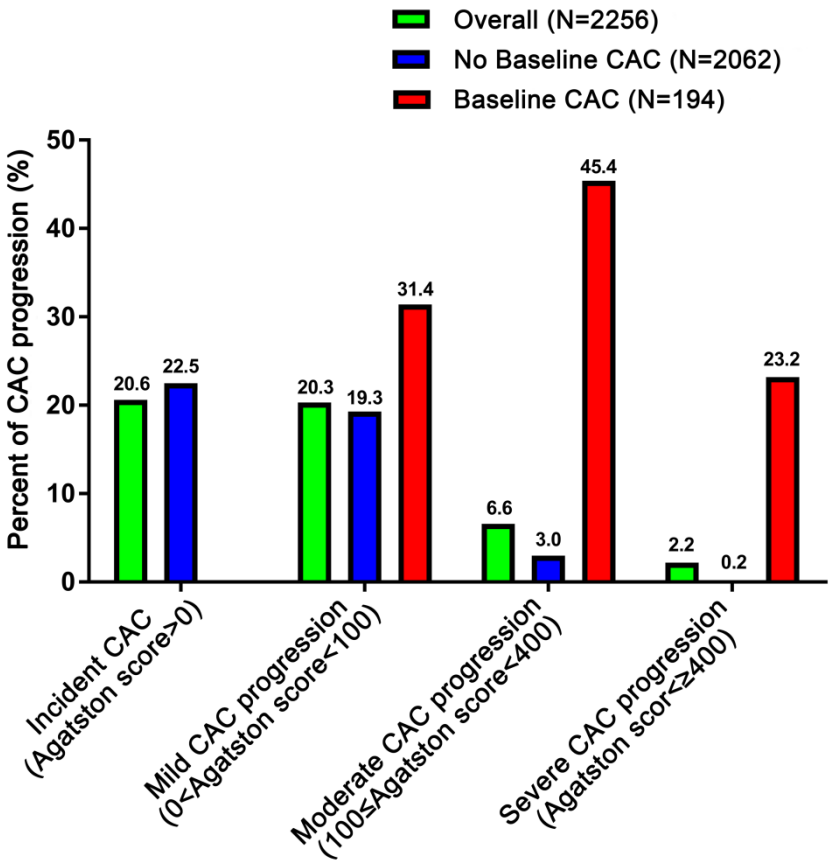
White, n=1,281	15.6 (11.2, 20.0)	13.3 (9.1, 17.6)	10.6 (6.1, 15.2)	8.9 (4.9, 12.9)	8.7 (4.7, 12.7)	7.7 (3.7, 11.8)
P for interaction=0.032						

Model 1, unadjusted; Model 2, adjusted for age and sex; Model 3, adjusted for variables in model 2 plus BMI, current smoker status (yes/no), milliliter of daily alcohol consumption, SBP, antihypertensive medication use (yes/no), physical activity, serum creatinine, total cholesterol and LDL-C; Model 4, adjusted for variables in model 3 plus average of FG and change in FG level during variability measurement; Model 5, adjusted for variables in model 4 plus incidence of diabetes and diabetes medication use;. Model 6, for individuals with any CAC progression, adjusted for variables in model 4 plus baseline CAC. *Evaluated only among individuals without baseline CAC at the year 15 examination. †CAC progression was calculated as the difference of logarithmic CAC score at follow-up and baseline (log [CAC (follow-up) + 1] - log [CAC (baseline) + 1]).

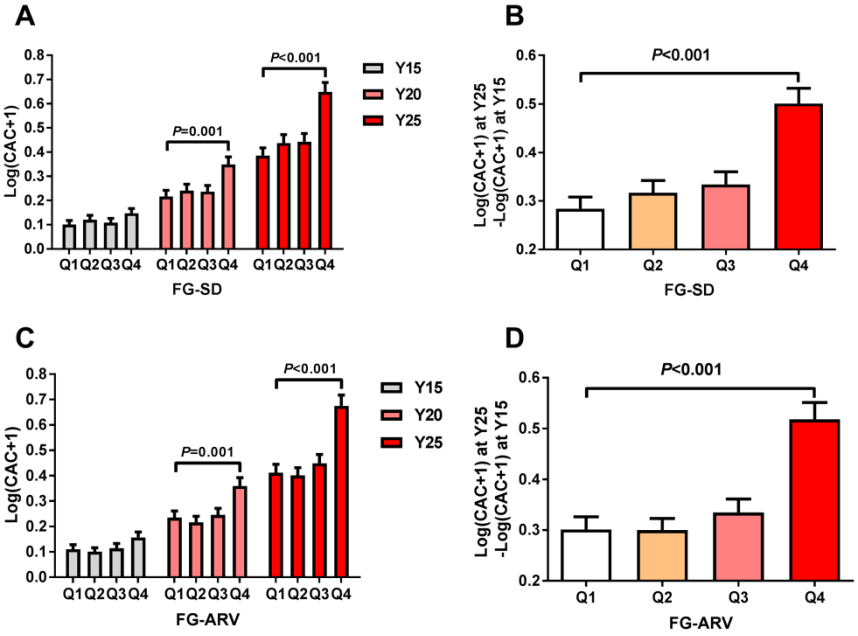
Supplementary Figure S1. Study flow chart. CARDIA, Coronary Artery Risk Development Study in Young Adults; CAC, coronary artery calcification.



Supplementary Figure S2. Percentage of participants with CAC progression during 10-year follow-up period stratified by baseline CAC presence in the CARDIA study. CAC, coronary artery calcification.

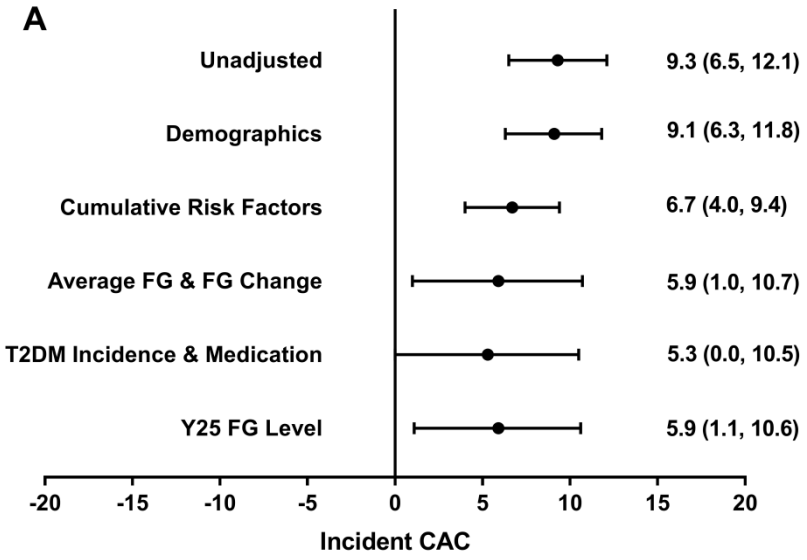


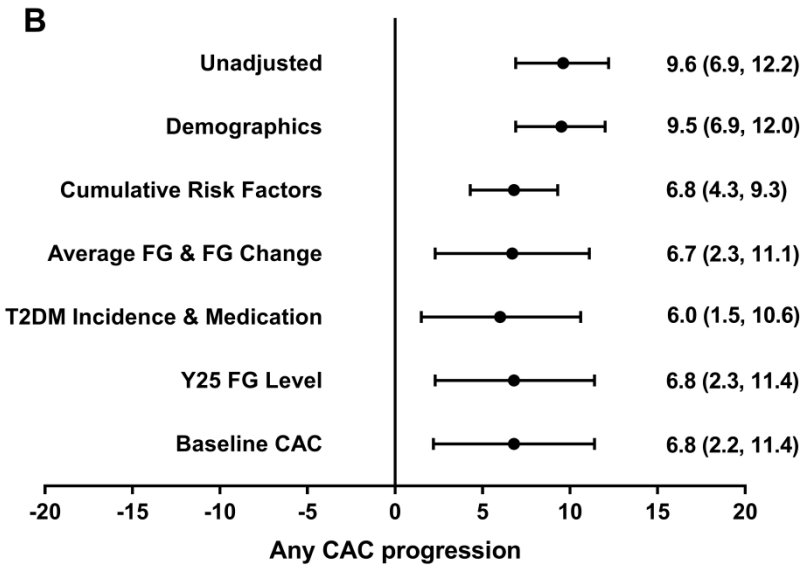
Supplementary Figure S3. CAC progression according to the quartile of fasting glucose variability. CAC score at baseline (Y15), 5-year (Y20) and 10-year (Y25) follow-up period stratified by the quartiles of (A) FG-SD, and (C) FG-ARV. CAC progression was gradually increased with quartiles of (B) FG-SD, and (D) FG-ARV during 10-year follow-up. ARV, average real variability; CAC, coronary artery calcification; FG, fasting glucose; SD, standard deviation.



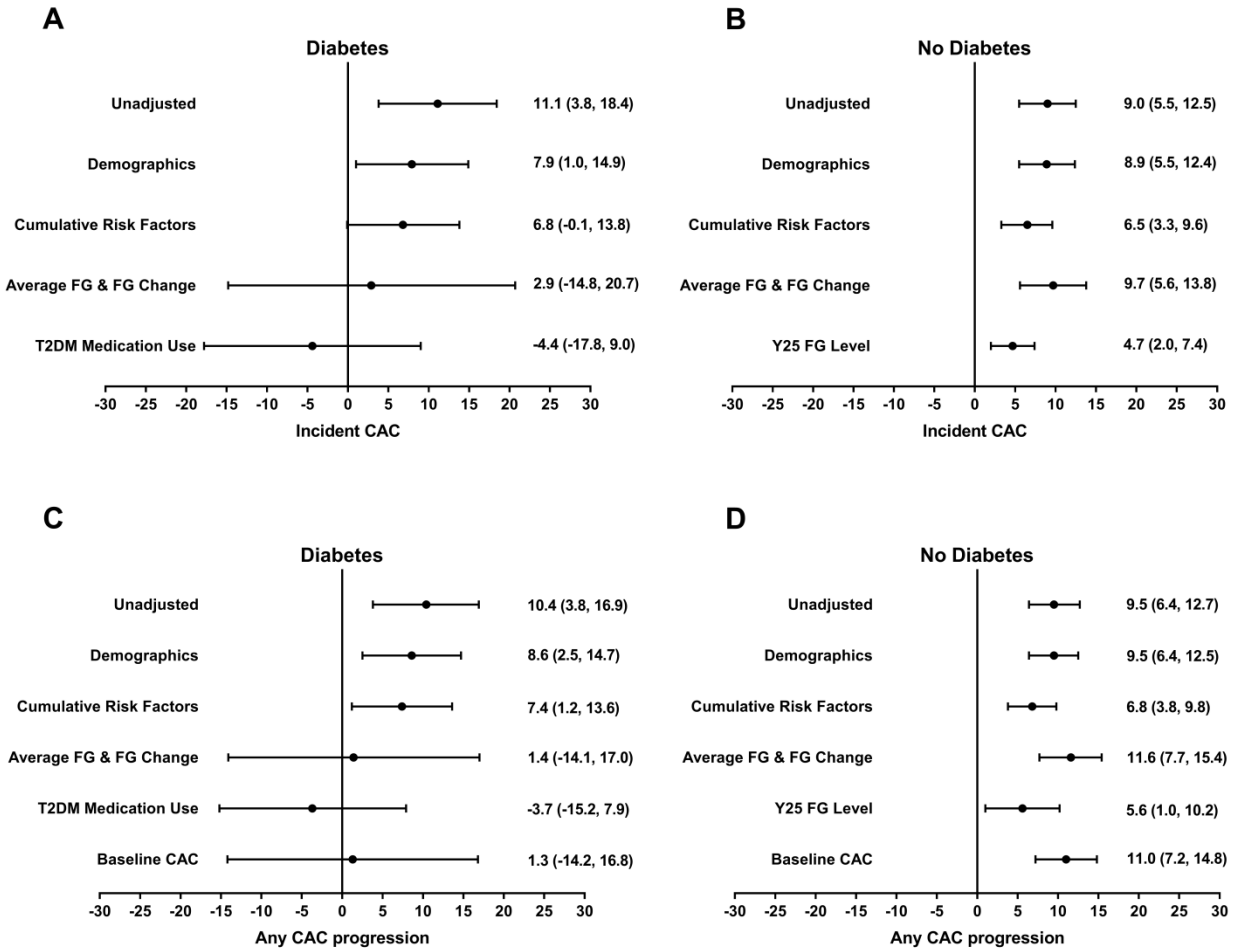
Supplementary Figure S4.

Forest plot of the association between a 1-standard deviation unit increment in fasting glucose coefficient of variation and percent progression of (A) incident CAC and (B) any CAC progression among individuals. Model adjustment: Demographics: age, sex and race; Cumulative Risk Factors: Demographics plus BMI, current smoker status, milliliter of daily alcohol consumption, SBP, antihypertensive medication use, physical activity, serum creatinine, total cholesterol and LDL-C; Average FG & FG change: Cumulative Risk Factors plus average FG level and change in FG level during variability measurement; T2DM incidence & Medication: Average FG & FG change plus incidence of diabetes and diabetes medication use; Y25 FG level: Average FG & FG change plus FG level at year 25; Baseline CAC: Average FG & FG change plus baseline CAC.

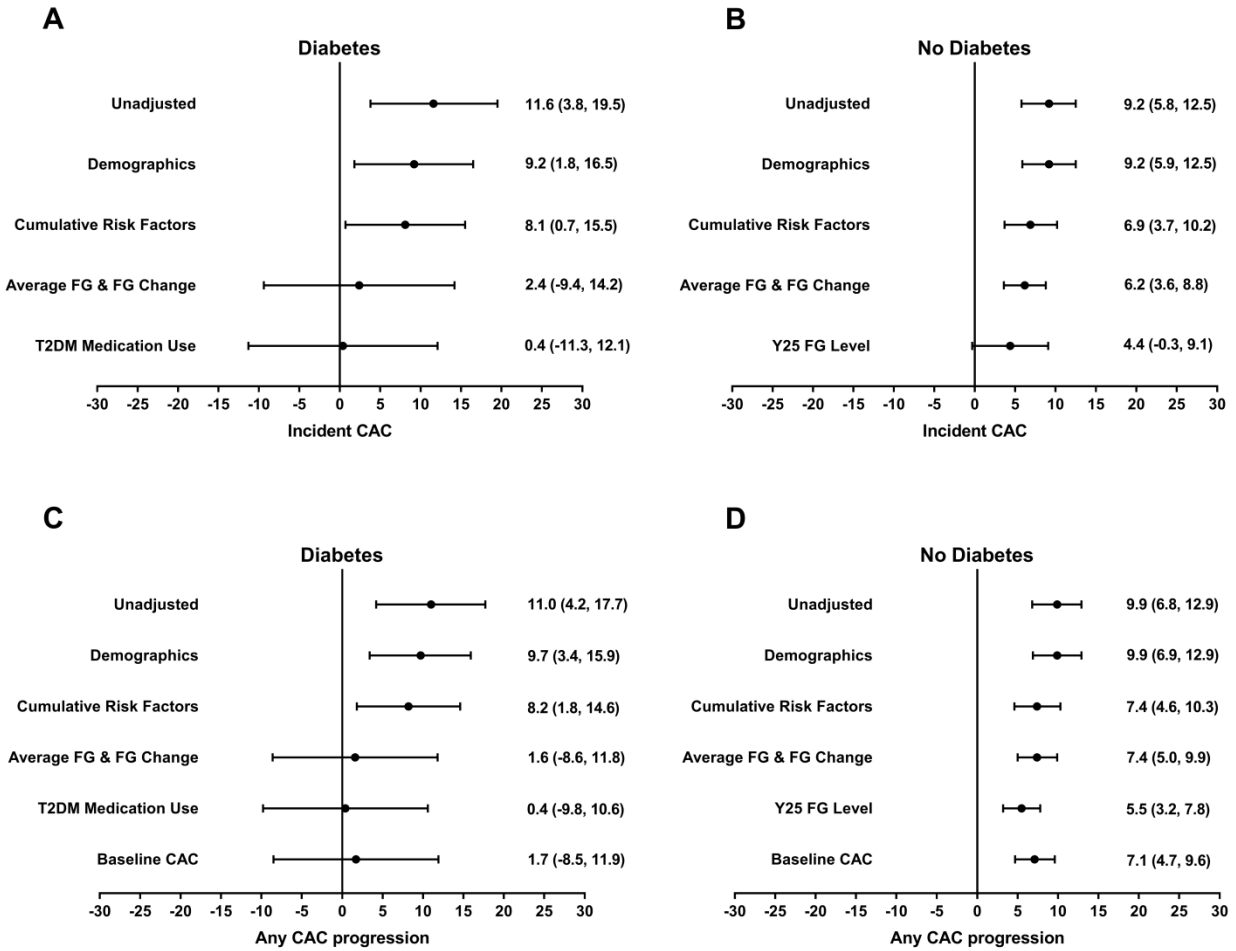




Supplementary Figure S5. Forest plot of the association between a 1-standard deviation unit increment in FG-SD and percent progression of incident CAC among individuals (A) with diabetes or (B) without diabetes and any CAC progression among individuals (C) with diabetes or (D) without diabetes. Model adjustment: Demographics: age, sex and race; Cumulative Risk Factors: Demographics plus BMI, current smoker status, milliliter of daily alcohol consumption, SBP, antihypertensive medication use, physical activity, serum creatinine, total cholesterol and LDL-C; Average FG & FG change: Cumulative Risk Factors plus average FG level and change in FG level during variability measurement; T2DM Medication use: Average FG & FG change plus diabetes medication use; Y25 FG level: Average FG & FG change plus FG level at year 25; Baseline CAC: Average FG & FG change plus baseline CAC.


A
Diabetes
Unadjusted
11.1 (3.8, 18.4)
Demographics
7.9 (1.0, 14.9)
Cumulative Risk Factors
6.8 (-0.1, 13.8)
Average FG & FG Change
2.9 (-14.8, 20.7)
T2DM Medication Use
-4.4 (-17.8, 9.0)
-30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30
Incident CAC
B
No Diabetes
Unadjusted
9.0 (5.5, 12.5)
Demographics
8.9 (5.5, 12.4)
Cumulative Risk Factors
6.5 (3.3, 9.6)
Average FG & FG Change
9.7 (5.6, 13.8)
Y25 FG Level
4.7 (2.0, 7.4)
-30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30
Incident CAC
C
Diabetes
Unadjusted
10.4 (3.8, 16.9)
Demographics
8.6 (2.5, 14.7)
Cumulative Risk Factors
7.4 (1.2, 13.6)
Average FG & FG Change
1.4 (-14.1, 17.0)
T2DM Medication Use
-3.7 (-15.2, 7.9)
Baseline CAC
1.3 (-14.2, 16.8)
-30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30
Any CAC progression
D
No Diabetes
Unadjusted
9.5 (6.4, 12.7)
Demographics
9.5 (6.4, 12.5)
Cumulative Risk Factors
6.8 (3.8, 9.8)
Average FG & FG Change
11.6 (7.7, 15.4)
Y25 FG Level
5.6 (1.0, 10.2)
Baseline CAC
11.0 (7.2, 14.8)
-30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30
Any CAC progression

Supplementary Figure S6. Forest plot of the association between a 1-standard deviation unit increment in FG-ARV and percent progression of incident CAC among individuals (A) with diabetes or (B) without diabetes and any CAC progression among individuals (C) with diabetes or (D) without diabetes. Model adjustment: Demographics: age, sex and race; Cumulative Risk Factors: Demographics plus BMI, current smoker status, milliliter of daily alcohol consumption, SBP, antihypertensive medication use, physical activity, serum creatinine, total cholesterol and LDL-C; Average FG & FG change: Cumulative Risk Factors plus average FG level and change in FG level during variability measurement; T2DM Medication use: Average FG & FG change plus diabetes medication use; Y25 FG level: Average FG & FG change plus FG level at year 25; Baseline CAC: Average FG & FG change plus baseline CAC.


A
Diabetes
Unadjusted
11.6 (3.8, 19.5)
Demographics
9.2 (1.8, 16.5)
Cumulative Risk Factors
8.1 (0.7, 15.5)
Average FG & FG Change
2.4 (-9.4, 14.2)
T2DM Medication Use
0.4 (-11.3, 12.1)
-30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30
Incident CAC
B
No Diabetes
Unadjusted
9.2 (5.8, 12.5)
Demographics
9.2 (5.9, 12.5)
Cumulative Risk Factors
6.9 (3.7, 10.2)
Average FG & FG Change
6.2 (3.6, 8.8)
Y25 FG Level
4.4 (-0.3, 9.1)
-30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30
Incident CAC
C
Diabetes
Unadjusted
11.0 (4.2, 17.7)
Demographics
9.7 (3.4, 15.9)
Cumulative Risk Factors
8.2 (1.8, 14.6)
Average FG & FG Change
1.6 (-8.6, 11.8)
T2DM Medication Use
0.4 (-9.8, 10.6)
Baseline CAC
1.7 (-8.5, 11.9)
-30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30
Any CAC progression
D
No Diabetes
Unadjusted
9.9 (6.8, 12.9)
Demographics
9.9 (6.9, 12.9)
Cumulative Risk Factors
7.4 (4.6, 10.3)
Average FG & FG Change
7.4 (5.0, 9.9)
Y25 FG Level
5.5 (3.2, 7.8)
Baseline CAC
7.1 (4.7, 9.6)
-30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30
Any CAC progression