

## SUPPLEMENTARY DATA

**Supplementary Table S1.** Follow-up characteristics of subjects according to baseline TyG index tertiles

	T1	T2	T3	P value
N	392	391	392	
Age (years)	56.1±8.4	56.0±8.0	55.9±7.5	0.90
Sex (M/F)	192/200	293/98	350/42	
SBP (mmHg)	119.7±14.3	124.3±13.9	124.6±13.2	<0.01
DBP (mmHg)	73.3±10.1	76.4±9.3	76.7±9.6	<0.01
BMI ( $\text{kg}/\text{m}^2$ )	23.2±2.9	24.7±2.8	25.4±2.8	<0.01
FPG (mg/dL)	95.4±14.4	102.6±18.3	110.2±25.7	<0.01
TC (mg/dL)	190.8±38.6	196.8±35.8	201.3±40.7	<0.01
TG (mg/dL)	89.8±40.5	122.5±60.7	183.2±82.2	<0.01
HDL-C (mg/dL)	58.7±13.4	51.6±11.7	47.3±11.1	<0.01
LDL-C (mg/dL)	114.3±36.8	119.6±34.6	122.2±31.8	0.03
TyG index	8.27±0.45	8.64±0.45	9.10±0.48	<0.01
HTN (%)	92 (23.5)	144 (36.8)	165 (42.1)	<0.01
DM (%)	21 (5.4)	46 (11.8)	72 (18.4)	<0.01
Statin use (%)	31 (7.9)	37 (9.5)	58 (14.8)	<0.01
Alcohol (%)	71 (18.1)	80 (20.5)	113 (28.8)	<0.01
Smoking (%)	37 (9.4)	47 (12.0)	83 (21.2)	<0.01
Exercise (%)	145 (37.0)	119 (30.4)	108 (27.6)	0.09
Follow-up CACS	28.0±89.7	49.9±138.9	74.9±208.8	<0.01
Categorical CACS				<0.01
0	280 (71.4)	237 (60.6)	202 (51.5)	
0< and ≤10	17 (4.3)	26 (6.6)	29 (7.4)	
>10	95 (24.2)	128 (32.7)	161 (41.1)	
Follow-up Ln (CACS+1)	1.07±1.86	1.55±2.14	1.96±2.25	<0.01
Observation time (years)	4.2±2.2	4.0±2.1	4.4±2.3	0.06
CAC progression (%)	69 (17.6)	100 (25.6)	143 (36.5)	<0.01

Data are mean ± SD, number (percentage).

SBP, systolic blood pressure; DBP, diastolic blood pressure; FPG, fasting plasma glucose; TC, total cholesterol; TG, triglyceride; TyG index, triglyceride glucose index; HTN, hypertension; DM, diabetes mellitus; Alcohol, moderate drinking; Smoking, current smoker; Exercise, regular exercise of moderate intensity; CACS, coronary

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artery calcium score; CAC progression, incident CAC or increase  $\geq 2.5$  units between baseline and final square root of CAC scores

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**Supplementary Table S2.** Logistic regression model to identify independent predictors of CAC progression

	OR	95% CI	P value
Age	1.07	1.05-1.08	<0.01
Sex-men	3.50	2.45-5.01	<0.01
BMI	1.12	1.07-1.17	<0.01
SBP	1.02	1.01-1.03	<0.01
DBP	1.03	1.02-1.04	<0.01
TC	1.00	1.00-1.01	0.06
HDL-C	0.98	0.97-0.99	<0.01
LDL-C	1.00	1.00-1.01	0.02
Baseline Ln(CACS+1)	1.45	1.35-1.56	<0.01
HTN	2.00	1.51-2.64	<0.01
DM	2.84	1.86-4.31	<0.01
Alcohol	1.14	0.81-1.62	0.45
Smoking	1.03	0.69-1.55	0.87
Exercise	1.30	0.94-1.80	0.12
TyG index			
Tertile 1	1		
Tertile 2	1.61	1.14-2.27	<0.01
Tertile 3	2.69	1.93-3.75	<0.01

OR, Odds ratio; CI, confidence intervals; SBP, systolic blood pressure; DBP, diastolic blood pressure; TC, total cholesterol; CACS, coronary artery calcium score; HTN, hypertension; DM, diabetes mellitus; Alcohol, moderate drinking; Smoking, current smoker; Exercise, regular exercise of moderate intensity; TyG index, triglyceride glucose index

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**Supplementary Table S3.** Odds ratios and 95% confidence intervals for CAC progression according to TyG index tertiles

	OR (95% CI)			P for trend
	T1	T2	T3	
<b>TyG index</b>				
Model 1	1.00	1.65 (1.15–2.38)	2.81 (1.99–3.97)	<0.01
Model 2	1.00	1.42 (0.96–2.08)	2.28 (1.56–3.33)	<0.01
Model 3	1.00	1.16 (0.74–1.82)	1.95 (1.18–3.23)	0.01

Model 1: Unadjusted

Model 2: Adjusted for age and sex

Model 3: Model 2 + BMI, SBP, LDL-C, HDL-C, exercise, alcohol, smoking, presence of diabetes and hypertension, use of statins and aspirin, baseline Ln(CACS+1), change of BMI, SBP, LDL-C, HDL-C and TyG index, change in whether taking drugs for diabetes, hypertension, statins, or aspirin.

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**Supplementary Table S4.** Odds ratios and 95% confidence intervals for CAC incidence (A) and CAC progression (B) according to TyG index tertiles

(A) CAC incidence

	OR (95% CI)			P for trend
	T1	T2	T3	
<b>TyG index</b>				
Model 1	1.00	1.37 (0.85–2.22)	2.54 (1.62–3.90)	<0.01
Model 2	1.00	1.10 (0.66–1.84)	1.84 (1.06–3.20)	<0.05
Model 3	1.00	1.02 (0.60–1.74)	1.82 (1.11–2.97)	<0.05

Model 1: Unadjusted

Model 2: Adjusted for age and sex

Model 3: Model 2 + BMI, SBP, LDL-C, HDL-C, exercise, alcohol, smoking, presence of diabetes and hypertension, use of statins and aspirin

(CAC incidence, detectable CAC at follow-up examination in a population free from CAC at baseline)

(B) CAC progression

	OR (95% CI)			P for trend
	T1	T2	T3	
<b>TyG index</b>				
Model 1	1.00	1.50 (0.86–2.64)	2.41 (1.38–4.24)	<0.01
Model 2	1.00	1.44 (0.85–2.46)	2.04 (1.19–3.49)	<0.05
Model 3	1.00	1.21 (0.78–1.87)	1.73 (1.09–2.75)	<0.05

Model 1: Unadjusted

Model 2: Adjusted for age and sex

Model 3: Model 2 + BMI, SBP, LDL-C, HDL-C, exercise, alcohol, smoking, presence of diabetes and hypertension, use of statins and aspirin, and baseline Ln(CACS+1)

(CAC progression, increase  $\geq 2.5$  units between baseline and final square root of CAC scores in participants with detectable CAC at baseline)