

Table S1. Hazard ratios for CMDs according to categories of TyG-index at each time point.

TyG	TyG06			TyG08			TyG10			TyG12		
	Events	HR	95% CI	Events	HR	95% CI	Events	HR	95% CI	Events	HR	95% CI
Q1	750	1	Reference	718	1	Reference	595	1	Reference	661	1	Reference
Q2	1019	1.41	(1.28-1.56)	860	1.34	(1.22-1.48)	971	1.45	(1.31-1.60)	1001	1.37	(1.24-1.51)
Q3	1269	1.70	(1.54-1.87)	1530	1.74	(1.58-1.91)	1443	1.89	(1.71-2.08)	1250	1.62	(1.47-1.79)
Q4	1647	2.47	(2.25-2.72)	1577	2.32	(2.11-2.55)	1676	2.49	(2.26-2.74)	1773	2.37	(2.15-2.60)

Model: adjusted for age, gender, Smoking, Drinking, Education level, Salt status, Physical activity, BMI, LDL-C, HDL-C, hs-CRP, eGFR, Antihypertensive treatment, Lipid-lowering treatment.

Table S2. Hazard ratios for CMDs by TyG-index trajectories and TyG-index variability

	Model.1	Model.2	Model.3
TyG index trajectories			
Low-stable	Reference	Reference	Reference
Moderate-low stable	2.02 (1.83-2.23)	1.93 (1.75-2.13)	1.82 (1.65-2.01)
Moderate-high stable	3.48 (3.14-3.86)	3.23 (2.91-3.59)	2.95 (2.65-3.29)
High stable	4.59 (4.01-5.26)	4.20 (3.67-4.82)	3.86 (3.35-4.45)
TyG index variability			
TyG-CV			
Quartile 1	Reference	Reference	Reference
Quartile 2	1.05 (0.97-1.14)	1.05 (0.97-1.14)	1.06 (0.98-1.15)
Quartile 3	1.03 (0.95-1.12)	1.03 (0.95-1.12)	1.04 (0.96-1.13)
Quartile 4	1.20 (1.11-1.30)	1.19 (1.10-1.29)	1.22 (1.12-1.32)
TyG-SD			
Quartile 1	Reference	Reference	Reference
Quartile 2	1.07 (0.98-1.16)	1.06 (0.98-1.15)	1.07 (0.98-1.16)
Quartile 3	1.13 (1.04-1.23)	1.12 (1.03-1.22)	1.13 (1.04-1.22)
Quartile 4	1.35 (1.25-1.47)	1.33 (1.23-1.44)	1.33 (1.22-1.44)

Adjusted for age, gender, Smoking, Drinking, Education level, Salt status, Physical activity, BMI, LDL-C, HDL-C, hs-CRP, eGFR, Antihypertensive treatment, Lipid-lowering treatment.

Table S3. Hazard ratios for outcome by average TyG-index and total TyG-index change stratified by age at 60 years			
	< 60 years	≥ 60 years	
Average TyG index			<0.001
Quartile 1	Reference	Reference	
Quartile 2	1.79 (1.54-2.07)	1.48 (1.26-1.74)	
Quartile 3	2.91 (2.53-3.34)	1.75 (1.50-2.05)	
Quartile 4	3.87 (3.37-4.45)	2.21 (1.88-2.61)	
TyG index change			0.33
Quintile 1	1.13 (0.98-1.30)	1.10 (0.91-1.32)	
Quintile 2	1.14 (1.01-1.28)	1.02 (0.87-1.19)	
Quintile 3	Reference	Reference	
Quintile 4	1.14 (1.01-1.28)	0.99 (0.85-1.15)	
Quintile 5	1.25 (1.09-1.44)	0.93 (0.78-1.12)	

Model: adjusted for age, gender, Smoking, Drinking, Education level, Salt status, Physical activity, BMI, LDL-C, HDL-C, hs-CRP, eGFR, Antihypertensive treatment, Lipid-lowering treatment

Table S4. Hazard ratios for outcome by average TyG-index and total TyG-index change stratified by gender			
	Women	Men	
Average TyG index			<0.01
Quartile 1	Reference	Reference	
Quartile 2	2.01 (1.54-2.61)	1.57 (1.40-1.77)	
Quartile 3	3.11 (2.40-4.02)	2.22 (1.98-2.49)	
Quartile 4	4.70 (3.62-6.12)	2.89 (2.58-3.23)	
TyG index change			0.16
Quintile 1	1.05 (0.80-1.39)	1.15 (1.02-1.30)	
Quintile 2	1.15 (0.93-1.43)	1.08 (0.97-1.20)	
Quintile 3	Reference	Reference	
Quintile 4	0.92 (0.74-1.14)	1.13 (1.02-1.26)	
Quintile 5	1.12 (0.87-1.43)	1.14 (1.01-1.29)	

Model: adjusted for age, gender, Smoking, Drinking, Education level, Salt status, Physical activity, BMI, LDL-C, HDL-C, hs-CRP, eGFR, Antihypertensive treatment, Lipid-lowering treatment

Table S5. Hazard ratios for outcome by average TyG-index and total TyG-index change stratified by BMI			
	BMI≤28	BMI>28	
Average TyG index			<0.05
Quartile 1	Reference	Reference	
Quartile 2	1.70 (1.51-1.92)	1.27 (0.98-1.65)	
Quartile 3	2.45 (2.18-2.74)	1.82 (1.43-2.31)	
Quartile 4	3.34 (2.98-3.75)	2.29 (1.80-2.91)	
TyG index change			0.54
Quintile 1	1.19 (1.04-1.35)	1.07 (0.85-1.35)	
Quintile 2	1.11 (1.00-1.24)	1.07 (0.89-1.30)	
Quintile 3	Reference	Reference	
Quintile 4	1.06 (0.95-1.18)	1.12 (0.93-1.34)	
Quintile 5	1.17 (1.03-1.32)	1.06 (0.85-1.32)	

Model: adjusted for age, gender, Smoking, Drinking, Education level, Salt status, Physical activity, BMI, LDL-C, HDL-C, hs-CRP, eGFR, Antihypertensive treatment, Lipid-lowering treatment

Table S6. Excluding participants with incident CMDs occurring within the first year of follow-up(N=36029)			
	Model 1	Model 2	Model 3
Average TyG index			
Quartile 1	Reference	Reference	Reference
Quartile 2	1.78 (1.60-1.99)	1.72 (1.54-1.92)	1.66 (1.48-1.85)
Quartile 3	2.69 (1.60-1.99)	2.54 (2.29-2.81)	2.40 (2.16-2.67)
Quartile 4	3.73 (3.38-4.13)	3.46 (3.13-3.83)	3.22 (2.90-3.58)
TyG index change			
Quintile 1	1.15 (1.04-1.26)	1.15 (1.04-1.26)	1.13 (1.01-1.27)
Quintile 2	1.12 (1.02-1.23)	1.12 (1.02-1.23)	1.11 (1.01-1.22)
Quintile 3	Reference	Reference	Reference
Quintile 4	1.09 (0.99-1.20)	1.09 (0.99-1.20)	1.09 (0.99-1.20)
Quintile 5	1.18 (1.07-1.29)	1.17 (1.06-1.28)	1.16 (1.04-1.30)

Model: adjusted for age, gender, Smoking, Drinking, Education level, Salt status, Physical activity, BMI, LDL-C, HDL-C, hs-CRP, eGFR, Antihypertensive treatment, Lipid-lowering treatment

Table S7. Odds ratios (OR) and 95% CI for prevalent CMDs at baseline (2010-2012), by categories of TyG index at baseline, average TyG and TyG change

	OR _a	95% CI	OR _b	95% CI	OR _c	95% CI
TyG at baseline						
Quartile 1	1	Reference	1	Reference	1	Reference
Quartile 2	1.53	(1.40-1.67)	1.51	(1.38-1.64)	1.49	(1.37-1.63)
Quartile 3	2.62	(2.41-2.84)	2.57	(2.36-2.78)	2.51	(2.31-2.73)
Quartile 4	6.78	(6.27-7.32)	6.61	(6.11-7.15)	6.40	(5.90-6.95)
Average TyG						
Quartile 1	1	Reference	1	Reference	1	Reference
Quartile 2	1.79	(1.62-1.97)	1.76	(1.60-1.94)	1.76	(1.59-1.94)
Quartile 3	3.89	(3.56-4.26)	3.82	(3.50-4.18)	3.78	(3.45-4.15)
Quartile 4	11.20	(10.28-12.21)	11.01	(10.09-12.00)	10.79	(9.86-11.81)
TyG change						
Quintile 1	1.77	(1.65-1.91)	1.79	(1.66-1.93)	1.82	(1.69-1.960)
Quintile 2	1.05	(0.98-1.14)	1.06	(0.98-1.15)	1.06	(0.98-1.15)
Quintile 3	1	Reference	1	Reference	1	Reference
Quintile 4	1.08	(1.00-1.17)	1.08	(1.00-1.17)	1.06	(0.98-1.15)
Quintile 5	1.60	(1.49-1.73)	1.59	(1.48-1.72)	1.55	(1.44-1.67)

OR_a: adjusted for age and sex at baseline.

OR_b: adjusted for age, gender, Smoking, Drinking, Education level, Salt status and Physical activity, BMI;

OR_c: adjusted for all the variables in model 2 and LDL-C, HDL-C, hs-CRP, eGFR, Antihypertensive treatment, Lipid-lowering treatment.

Table S8. Baseline characteristics according to Quintile of change TyG index

	Total	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	<i>P</i>
Participants	36359	7271	7272	7272	7272	7272	
Age, year	53.11±11.79	53.07±11.45	53.63±11.70	53.75±11.98	53.31±11.88	51.82±11.82	<0.01
Male, N (%)	26857 (73.87)	5893 (81.05)	5414 (74.45)	5239 (72.04)	5109 (70.26)	5202 (71.53)	<0.01
BMI, Kg/m ²	24.99±3.39	24.83±3.32	24.84±3.45	24.93±3.36	25.04±3.40	25.31±3.38	<0.01
Average TyG	8.57±0.52	8.77±0.51	8.57±0.49	8.50±0.50	8.48±0.52	8.49±0.54	<0.01
Physical exercisers, N (%)	25885 (71.19)	5546 (76.28)	5325 (73.23)	5095 (70.06)	4937 (67.89)	4982 (68.51)	<0.01
Current smoking, N (%)	11806 (32.47)	2458 (33.81)	2271 (31.23)	2290 (31.49)	2320 (31.90)	2467 (33.92)	<0.01
Current drinking, N (%)	11010 (30.28)	2255 (31.01)	2023 (27.82)	2179 (29.96)	2169 (29.83)	2384 (32.78)	<0.01
Hypertension, N (%)	14766 (40.61)	2888 (39.72)	2896 (39.82)	2919 (40.14)	2993 (41.16)	3070 (42.22)	<0.01
Antihypertensivetreatment, N (%)	4906 (13.49)	895 (12.31)	957 (13.16)	985 (13.55)	1049 (14.43)	1020 (14.03)	<0.01
Lipid-lowering treatment, N (%)	395 (1.09)	90 (1.24)	71 (0.98)	78 (1.07)	78 (1.07)	78 (1.07)	<0.01