

Supplementary file

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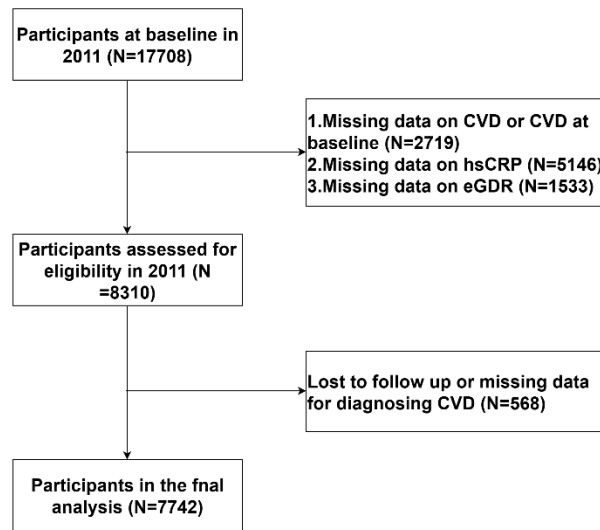


Figure S1. Flow chart of participants selection (eGDR: estimated glucose disposal rate; hsCRP: high sensitivity C-reactive protein; CVD: cardiovascular diseases. Draw by Figdraw)

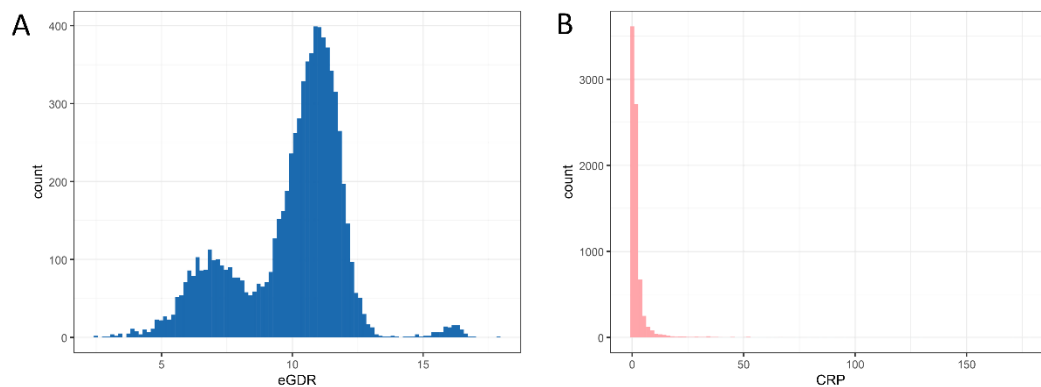


Figure S2. A. Distribution of eGDR; B. Distribution of hsCRP (eGDR: estimated glucose disposal rate; hsCRP: high sensitivity high sensitivity C-reactive protein)

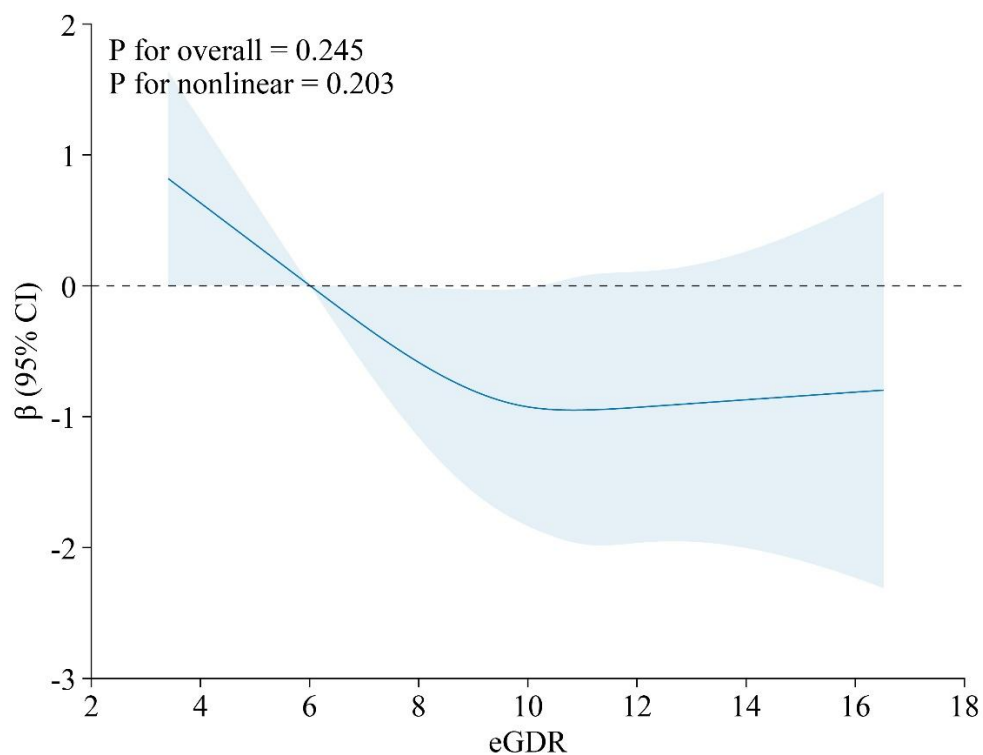


Figure S3. Non-linear relationship between eGDR and incident hsCRP (eGDR: estimated glucose disposal rate; hsCRP: high sensitivity C-reactive protein)

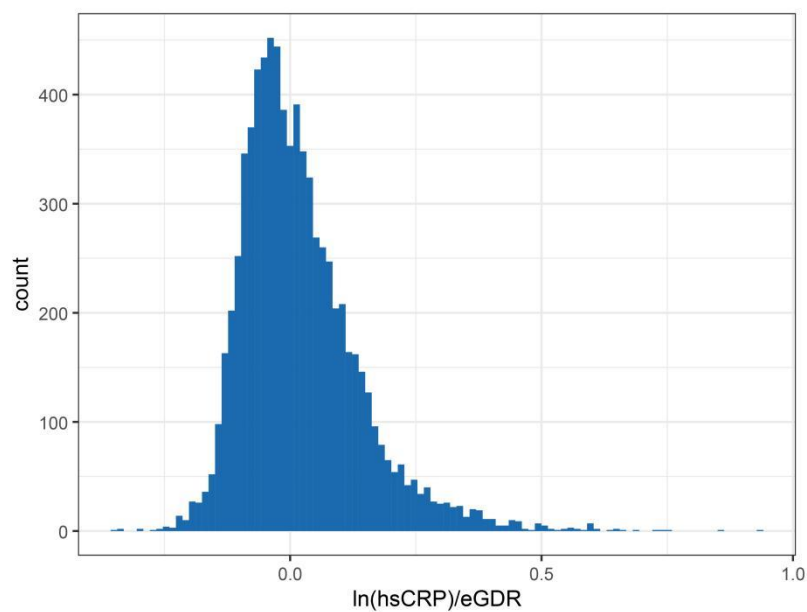


Figure S4: Distribution of $\ln(\text{hsCRP})/\text{eGDR}$ (eGDR: estimated glucose disposal rate; hsCRP: high sensitivity C-reactive protein)

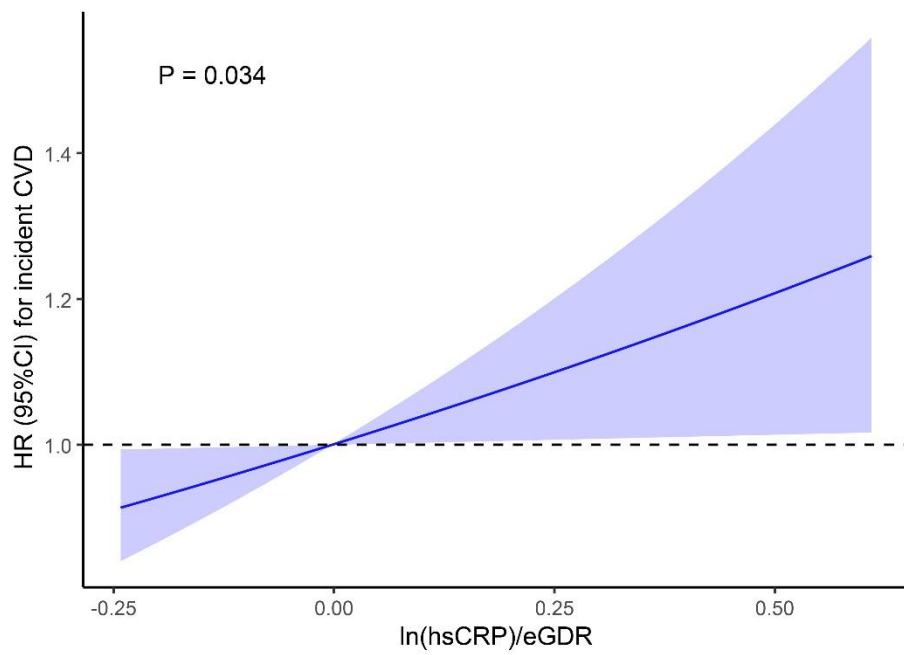


Figure S5: Association between $\ln(\text{hsCRP})/(\text{eGDR})$ and incident CVD (adjusted for age, gender, marital status, education level, smoking status, drinking status, hypertension history, diabetes history, BMI, LDL-C, HDL-C, TC, FBG)

Tables

Table S1. Association between eGDR, hsCRP and incident CVD

Variable	Event No.	aHR [95%CI]		
		Model1	Model2	Model3
eGDR (mg/kg/min)				
<10.52	1237	1[Reference]	1[Reference]	1[Reference]
≥10.52	744	0.57[0.52-0.63]	0.57[0.52-0.63]	0.77[0.69-0.87]
HsCRP (mg/L)				
<1	884	1[Reference]	1[Reference]	1[Reference]
≥1	1097	1.29[1.18-1.41]	1.28[1.17-1.39]	1.15[1.05-1.26]

aHR: adjusted hazard ratios; 95%CI: 95% confidence interval; eGDR: estimated glucose disposal rate; hsCRP: high sensitivity C-reactive protein;

Model 1: adjusted for age and gender.

Model 2: adjusted for age, gender, marital status, education level, smoking status, and drinking status.

Model 3: adjusted for hypertension history, diabetes history, BMI, LDL-C, HDL-C, TC, FBG sed on model 2.

Table S2. Interact effects of eGDR and hsCRP on incident CVD

Interactive items	Interactive effects [95% CI]		
	Model1	Model2	Model3
Additive effects			
RERI	0.07[0.03-0.11]	0.12[0.05-0.19]	0.09[0.03-0.14]
AP	0.05[0.03-0.07]	0.07[0.04-0.10]	0.06[0.03-0.08]
SI	1.18[1.16-1.21]	1.21[1.16-1.26]	1.18[1.14-1.23]
Multiplicative effect	1.02[1.01-1.03]	1.03[1.02-1.03]	1.02[1.01-1.03]

95%CI: 95% confidence interval; RERI: relative excess risk due to interaction; AP: attributable proportion; SI: synergy index.

Model 1: adjusted for age and gender.

Model 2: adjusted for age, gender, marital status, education level, smoking status, and drinking status.

Model 3: adjusted for hypertension history, diabetes history, BMI, LDL-C, HDL-C, TC, FBG based on model 2.

Table S3. Mediation analyses of hsCRP and eGDR with incident CVD (adjusted for age, gender, marital status, education level, smoking status, drinking status, hypertension history, diabetes history, heart history, BMI, LDL-C, HDL-C, TC, and FBG)

Mediating role	group	Indirect HR (95% CI)	Direct HR (95% CI)	Mediating proportion
hsCRP on eGDR	eGDR (mg/kg/min)			
	<10.52	1[Reference]		
	≥10.52	0.98 [0.97-0.99]	0.79[0.71-0.86]	5.81%

eGDR on	hsCRP (mg/L)			
hsCRP	<1	1[Reference]		
	≥1	1.01[1.01-1.02]	1.14[1.05-1.24]	8.52%

HR: hazard ratios; 95%CI: 95% confidence interval; eGDR: estimated glucose disposal rate; hsCRP: high sensitivity C-reactive protein.

Table S4. Association between ln(hsCRP)/(eGDR) and incident CVD

Variable	aHR [95%CI]		
	Model1	Model2	Model3
ln(hsCRP)/(eGDR)	2.94[2.09-4.14]	2.85[2.02-4.02]	1.46[1.03-2.06]

aHR: adjusted hazard ratios; 95%CI: 95% confidence interval; eGDR: estimated glucose disposal rate; hsCRP: high sensitivity C-reactive protein;

Model 1: adjusted for age and gender.

Model 2: adjusted for age, gender, marital status, education level, smoking status, and drinking status.

Model 3: adjusted for hypertension history, diabetes history, BMI, LDL-C, HDL-C, TC, FBG sed on model 2.

Table S5. Analysis of joint effects on eGDR and hsCRP with incident CVD by history of diabetes

Group	eGDR (mg/kg/min)	hsCRP (mg/L)	Event No.	aHR [95%CI] (With diabetes)	Event No.	aHR[95%CI] (Without diabetes)
A	≥10.52	<1	419/2287	1 [Reference]	10/30	1 [Reference]
B	<10.52	<1	309/1512	0.65[0.23-1.84]	6/28	1.10[0.91-1.27]
C	≥10.52	≥1	404/1478	1.04[0.49-2.20]	51/118	1.21[1.04-1.41]
D	<10.52	≥1	704/2077	0.72[0.34-1.54]	78/212	1.49[1.29-1.72]

aHR: adjusted hazard ratios; 95%CI: 95% confidence interval; eGDR: estimated glucose disposal rate; hsCRP: high sensitivity C-reactive protein;(adjusted for gender, marital status, education level, smoking status, alcohol consumption status, hypertension history, diabetes history, BMI, LDL-C, HDL-C, TC, FBG)

Table S6. Analysis of joint effects on eGDR and hsCRP with incident CVD by age

Group	eGDR (mg/kg/min)	hsCRP (mg/L)	Event No.	aHR [95%CI] (Age < 60 years)	Event No.	aHR [95%CI] (Age ≥ 60 years)
A	≥10.52	<1	181/753	1 [Reference]	248/1564	1 [Reference]
B	<10.52	<1	162/647	1.10[0.89-1.36]	153/893	1.07[0.87-1.31]
C	≥10.52	≥1	222/650	1.24[1.00-1.56]	233/946	1.19[0.98-1.45]
D	<10.52	≥1	382/1023	1.35[1.09-1.67]	400/1266	1.49[1.23-1.80]

aHR: adjusted hazard ratios; 95%CI: 95% confidence interval; eGDR: estimated glucose disposal rate; hsCRP: high sensitivity C-reactive protein;(adjusted for gender, marital status, education level, smoking status, alcohol consumption status, hypertension history, diabetes history, BMI,

LDL-C, HDL-C, TC, FBG)

Table S7. Analysis of joint effects on eGDR and hsCRP with incident CVD by gender

Group	eGDR (mg/kg/min)	hsCRP (mg/L)	Event No.	aHR [95%CI] (Male)	Event No.	aHR [95%CI] (Female)
A	≥10.52	<1	248/1546	1 [Reference]	245/1247	1 [Reference]
B	<10.52	<1	153/893	1.11[0.89-1.37]	160/723	1.08[0.88-1.32]
C	≥10.52	≥1	233/946	1.13[0.89-1.43]	287/923	1.32[1.09-1.60]
D	<10.52	≥1	400/1266	1.48[1.19-1.84]	455/1298	1.41[1.17-1.70]

aHR: adjusted hazard ratios; 95%CI: 95% confidence interval; eGDR: estimated glucose disposal rate; hsCRP: high sensitivity C-reactive protein;(adjusted for gender, marital status, education level, smoking status, alcohol consumption status, hypertension history, diabetes history, BMI, LDL-C, HDL-C, TC, FBG)

Table S8. Mediation analyses of hsCRP and eGDR with incident CVD by history of diabetes (adjusted for age, gender, marital status, education level, smoking status, drinking status, hypertension history, diabetes history, heart history, BMI, LDL-C, HDL-C, TC, and FBG)

Mediating role	Diabetes or not	group	Indirect HR (95% CI)	Direct HR (95% CI)	Mediating proportion
hsCRP on eGDR	Diabetes	eGDR (mg/kg/min)			
		<10.52	1[Reference]		
	Without diabetes	≥10.52	1.00[0.99-1.01]	0.70[0.47-1.04]	-0.008%
		eGDR (mg/kg/min)			
eGDR on hsCRP	Diabetes	<10.52	1[Reference]		
		≥10.52	0.98 [0.97-0.99]	0.78[0.69-0.85]	7.00%
	Without diabetes	hsCRP (mg/L)			
		<1	1[Reference]		
		≥1	1.00[0.98-1.02]	0.70[0.47-1.04]	-0.02%
		hsCRP (mg/L)			
		<1	1.01[1.01-1.02]	1.18[1.04-1.30]	7.24%
		≥1			

HR: hazard ratios; 95%CI: 95% confidence interval; eGDR: estimated glucose disposal rate; hsCRP: hyper-sensitive C-reactive protein.