

Supplementary Table S1. Threshold effect of fasting plasma glucose on serum uric acid in total participants.

Inflection point of FPG	n	SUA (mean±SD)	Fully adjusted model		
			B	95% CI	p-value
<6.4 mmol/L	14222	302 ± 85.2	7.3	5.0-9.5	<0.001
≥6.4 mmol/L	2075	330 ± 89.4	-10.8	-12.2- -9.4	<0.001
Difference between 2 stratum			-18.1	-21.0- -15.2	<0.001
p-value for likelihood ratio test					<0.001
Predicted SUA level at inflection point		332.7 ± 1.32 ^a			

SUA: serum uric acid; FPG: fasting plasma glucose; SD: standard deviation; CI: confidence interval.

^a Data are presented as mean ± standard error.

Supplementary Table S2. Moderation analysis of triglyceride-and-glucose index on the relationship between fasting plasma glucose and serum uric acid in normouricaemic participants with fasting plasma glucose below 6.1 mmol/L and hyperuricaemic participants with fasting plasma glucose below 7.5 mmol/L.

	Crude model			Adjusted model ^a		
	B	95% CI	p-value	B	95% CI	p-value
Normouricaemia and FPG <6.1 mmol/L						
TyG	16.001	14.240-17.761	<0.001	9.295	6.094-12.496	<0.001
FPG	8.500	6.227-10.774	<0.001	7.416	5.125-9.707	<0.001
FPG* TyG	-1.441	-5.012-2.219	0.429	-0.369	-3.718-2.980	0.829
Hyperuricaemia and FPG <7.5 mmol/L						
TyG	12.677	9.795-15.559	<0.001	13.996	8.745-19.187	0.806
FPG	-0.758	-3.789-2.272	0.624	-0.485	-3.699-2.729	0.767
FPG* TyG	-1.009	-5.083-3.065	0.627	-0.026	-4.011-3.958	0.990

TyG, triglyceride-and-glucose; FPG, fasting plasma glucose; CI, confidence interval.

^a This analysis was adjusted by age, gender, waist circumference, body mass index, mean arterial pressure, triglyceride, total cholesterol, high-density lipoprotein cholesterol, low-density lipoprotein cholesterol, blood urea nitrogen, estimated glomerular filtration rate, and drinking and smoking statuses.

Supplementary Table S3. General characteristics of hyperuricaemic participants.

	FPG <7.5 mmol/L	FPG ≥7.5 mmol/L	p-value
n (%)	3,803 (94.9%)	205 (5.1%)	
Age, years	51 ± 12.3	55 ± 9.8	<0.001
Gender (male), n (%)	2,635 (69.3%)	144 (70.2%)	0.816
WC, cm	87.7 ± 10.17	91.2 ± 9.70	<0.001
MAP, mmHg	102 ± 13.7	107 ± 12.7	<0.001
FPG, mmol/L	5.7 ± 0.65	9.0 ± 1.75	<0.001
2hPG, mmol/L	7.2 ± 2.44	12.8 ± 5.37	<0.001
HbA1c, %	5.5 ± 0.52	7.2 ± 1.37	<0.001
SUA, μmol/L	424 ± 59.5	427 ± 63.1	0.393
TG, mmol/L	2.1 ± 2.23	2.9 ± 2.76	<0.001
TC, mmol/L	5.2 ± 1.13	5.4 ± 1.29	0.004
HDL-C, mmol/L	1.5 ± 0.39	1.5 ± 0.38	0.332
LDL-C, mmol/L	3.0 ± 0.85	3.0 ± 0.93	0.294
BUN, mmol/L	5.5 ± 1.53	5.6 ± 1.50	0.438
eGFR, ml/min/1.73m ²	109.9 ± 31.04	110.8 ± 32.97	0.686
eGFR<60 ml/min/1.73m ²	91 (2.4%)	9 (4.4%)	0.100
BMI, kg/m ²	26.1 ± 3.74	27.2 ± 3.58	<0.001
TyG index	8.9 ± 0.68	9.7 ± 0.72	<0.001
Smoking status (smoker), n (%)	1,213 (31.9%)	57 (27.8%)	0.248
Drinking status (drinker), n (%)	1,509 (39.7%)	88 (42.9%)	0.380
Glycaemic conditions			<0.001
NGT	2,202 (57.9%)	0 (0.0%)	
Prediatetes	1,553 (40.8%)	90 (56.1%)	
NDD	48 (1.3%)	115 (43.9%)	

WC, waist circumference; MAP, mean arterial pressure; FPG, fasting plasma glucose; 2hPG, 2-hour postprandial glucose; HbA1c, haemoglobin A1c; SUA, serum uric acid; TG, triglyceride; TC, total cholesterol; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; BUN, blood urea nitrogen; eGFR, estimated glomerular filtration rate; BMI, body mass index; TyG index, triglyceride-and-glucose index; NGT, normal glucose tolerance; NDD, newly diagnosed diabetes. Continuous data are presented as means ± standard deviations, and categorical variables are presented as numbers (percentages).