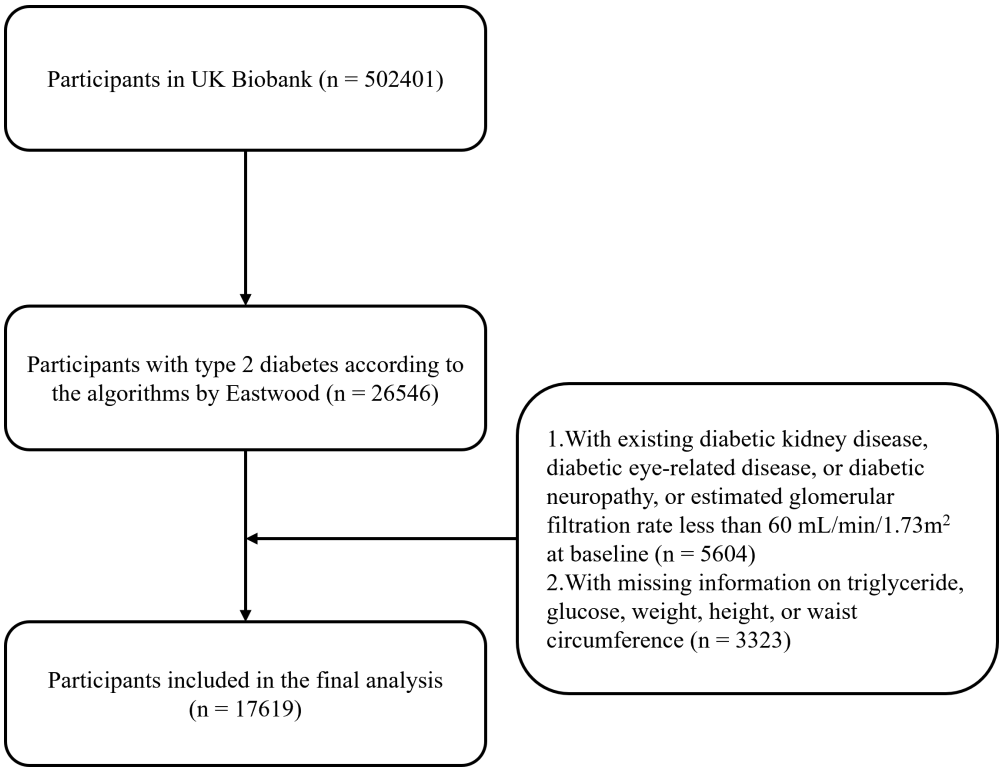

Supplementary Figure S1. The flowchart of patients included in the current study.

Supplementary Table S1. Baseline Characteristics of the Participants by TyG index

Characteristics*	Total	TyG index				*P*
		Q1	Q2	Q3	Q4	
		< 8.812	8.812 ≤ TyG < 9.264	9.264 ≤ TyG < 9.758	≥ 9.758	
Number of participants	17,619	4,404	4,405	4,405	4,405	
Age, years	59.06 (7.28)	58.85 (7.70)	59.71 (7.06)	59.39 (7.02)	58.30 (7.24)	<0.001
Male	10,890 (61.81)	2,531 (57.47)	2,621 (59.50)	2,763 (62.72)	2,975 (67.54)	<0.001
Race: white†	15,232 (87.24)	3,517 (80.68)	3,811 (87.29)	3,917 (89.67)	3,987 (91.32)	<0.001
TDI†	-0.49 (3.39)	-0.23 (3.47)	-0.65 (3.35)	-0.53 (3.33)	-0.53 (3.39)	<0.001
Leisure-time physical activity, MET-min/week†	485.15 (793.69)	557.94 (835.63)	500.22 (827.73)	451.66 (746.12)	430.81 (755.31)	<0.001
HbA1c, mmol/mol†	54.69 (14.49)	49.02 (13.05)	51.21 (10.10)	54.60 (11.67)	63.95 (17.36)	<0.001
Diabetes duration, years†	6.46 (8.97)	8.26 (10.73)	6.14 (8.23)	5.93 (8.42)	5.51 (7.97)	<0.001
Education level: college or university degree†	4,253 (24.73)	1,189 (27.75)	1,070 (24.88)	967 (22.45)	1,027 (23.84)	<0.001
Smoking status†						<0.001
Never	7,928 (45.49)	2,200 (50.59)	1,991 (45.73)	1,861 (42.63)	1,876 (43.03)	
Past	7,393 (42.42)	1,640 (37.71)	1,891 (43.43)	1,951 (44.70)	1,911 (43.83)	
Current	2,107 (12.09)	509 (11.70)	472 (10.84)	553 (12.67)	573 (13.14)	
Drinking status†						0.006
Never	1,527 (8.72)	437 (10.01)	370 (8.45)	375 (8.56)	345 (7.87)	
Past	1,173 (6.70)	302 (6.92)	266 (6.07)	293 (6.69)	312 (7.12)	
Current	14,812 (84.58)	3,627 (83.07)	3,745 (85.48)	3,714 (84.76)	3,726 (85.01)	
Hypertension	10,227 (58.05)	2,410 (54.72)	2,603 (59.09)	2,672 (60.66)	2,542 (57.71)	<0.001
CVD	3,458 (19.63)	846 (19.21)	856 (19.43)	889 (20.18)	867 (19.68)	0.692
Use of diabetes medication	11,502 (65.28)	3,041 (69.05)	2,923 (66.36)	2,843 (64.54)	2,695 (61.18)	<0.001
Use of antihypertensive medication	10,599 (60.16)	2,585 (58.70)	2,711 (61.54)	2,760 (62.66)	2,543 (57.73)	<0.001

Use of lipid-lowering medication	12,042 (68.35)	3,049 (69.23)	3,114 (70.69)	3,046 (69.15)	2,833 (64.31)	<0.001

Note. TyG, triglyceride glucose index; TDI, Townsend Deprivation Index; MET, metabolic equivalent; CVD, cardiovascular disease. * Values are presented as mean (SD) or *n* (%). † Data were incomplete for these variables. 0.9% for race, 0.2% for TDI, 1.5% for physical activity, 4.4% for HbA1c level, 4.9% for diabetes duration, 2.4% for education level, 1.1% for smoking status, 0.6% for drinking status.

Supplementary Table S2. Comparison of baseline characteristics between included and excluded population

Characteristics*	Total	Included	Excluded	*P*
Age, years	59.06 (7.29)	59.06 (7.28)	59.07 (7.33)	0.927
Male	12,835 (61.29)	10,890 (61.81)	1945 (58.53)	<0.001
Race: white	17,993 (85.92)	15,232 (86.45)	2761 (83.09)	<0.001
TDI	-0.44 (3.40)	-0.49 (3.39)	-0.21 (3.48)	<0.001
Leisure-time physical activity, MET-min/week	475.41 (783.80)	485.00 (793.69)	424.53 (727.14)	<0.001
HbA1c, mmol/mol	54.72 (14.31)	54.70 (14.49)	54.85 (13.31)	0.55
Diabetes duration, years	6.58 (9.06)	6.46 (8.97)	7.19 (9.49)	<0.001
Education level: college or university degree	5,037 (24.05)	4,253 (24.14)	784 (23.59)	0.005
Smoking status				<0.001
Never	9,462 (45.18)	7,928 (45.00)	1534 (46.16)	
Past	8,742 (41.74)	7,393 (41.96)	1349 (40.60)	
Current	2,480 (11.84)	2,107 (11.96)	373 (11.22)	
Drinking status				<0.001
Never	1,847 (8.82)	1,527 (8.67)	320 (9.63)	
Past	1,427 (6.81)	1,173 (6.66)	254 (7.64)	
Current	17,517 (83.65)	14,812 (84.07)	2,705 (81.40)	
Hypertension	12,203 (58.27)	10,227 (58.05)	1,976 (59.46)	0.128
CVD	4,169 (19.91)	3,458 (19.63)	711 (21.40)	0.019
Use of diabetes medication	13,747 (65.64)	11,502 (65.28)	2,245 (67.56)	0.011
Use of antihypertensive medication	12,659 (60.45)	10,599 (60.16)	2,060 (61.99)	0.047
Use of lipid-lowering medication	14,317 (68.37)	12,042 (68.35)	2,275 (68.46)	0.895

Note. TDI, townsend deprivation index; MET, metabolic equivalent; CVD, cardiovascular disease. * Values are presented as mean (SD) or *n* (%).

Supplementary Table S3. Associations between TyG-related indices and diabetic retinopathy in individuals with T2D (*n* = 17,619)

	Cases/ person-years	*HR* (95% *CIs*)		
		Model 1	Model 2	Model 3
TyG index				
Q1	325/51,887	Reference	Reference	Reference
Q2	336/52,273	1.03 (0.88–1.20)	1.03 (0.89–1.20)	1.12 (0.96–1.31)
Q3	365/51,827	1.15 (0.99–1.33)	1.15 (0.99–1.34)	1.23 (1.06–1.43)
Q4	458/51,725	1.50 (1.30–1.73)	1.51 (1.31–1.74)	1.49 (1.29–1.72)
P for trend		< 0.001	< 0.001	< 0.001
Per 1 unit increase		1.28 (1.20–1.38)	1.29 (1.20–1.38)	1.27 (1.18–1.36)
TyG–BMI index				
Q1	369/51,672	Reference	Reference	Reference
Q2	329/52,133	0.88 (0.75–1.02)	0.88 (0.76–1.02)	0.99 (0.85–1.15)
Q3	365/52,111	1.00 (0.87–1.16)	1.00 (0.86–1.16)	1.12 (0.96–1.30)
Q4	421/51,796	1.24 (1.08–1.43)	1.24 (1.07–1.44)	1.38 (1.19–1.60)
P for trend		< 0.001	< 0.001	< 0.001
Per 100 units increase		1.19 (1.09–1.29)	1.19 (1.09–1.30)	1.24 (1.14–1.35)
TyG–WC index				
Q1	368/52,141	Reference	Reference	Reference
Q2	335/52,325	0.90 (0.77–1.04)	0.90 (0.77–1.04)	0.99 (0.85–1.15)
Q3	357/52,065	0.99 (0.86–1.15)	1.00 (0.86–1.16)	1.10 (0.94–1.28)
Q4	424/51,181	1.27 (1.10–1.47)	1.28 (1.10–1.48)	1.35 (1.16–1.58)
P for trend		< 0.001	< 0.001	< 0.001
Per 100 units increase		1.08 (1.05–1.12)	1.08 (1.05–1.12)	< 0.001
TyG-WHtR index				
Q1	345/52,183	Reference	Reference	Reference
Q2	343/52,041	0.98 (0.84–1.14)	1.12 (1.01–1.24)	1.09 (0.93–1.27)
Q3	354/52,198	1.02 (0.88–1.18)	1.16 (1.04–1.28)	1.14 (0.97–1.32)
Q4	442/51,290	1.36 (1.18–1.57)	1.61 (1.46–1.78)	1.45 (1.25–1.68)
P for trend		< 0.001	< 0.001	< 0.001
Per 1 unit increase		1.15 (1.09–1.21)	1.15 (1.09–1.22)	1.17 (1.11–1.24)

Note. TyG, triglyceride glucose index; BMI, body mass index; TDI, Townsend deprivation index; CVD, cardiovascular disease; T2D, type 2 diabetes; HR, hazard ratio; CI, confidence interval. Model 1: The multivariable models were adjusted for age, sex, race, TDI. Model 2: The multivariable models were further adjusted for education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD. Model 3: The multivariable models were further adjusted for HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication.

Supplementary Table S4. Associations between TyG-related indices and diabetic neuropathy in individuals with T2D (*n* = 17,619)

	Cases/ person-years	***HR* (95% *CIs*)**		
		Model 1	Model 2	Model 3
TyG index				
Q1	112/52,812	Reference	Reference	Reference
Q2	158/52,960	1.38 (1.08–1.76)	1.35 (1.06–1.73)	1.42 (1.11–1.82)
Q3	176/52,680	1.53 (1.20–1.94)	1.46 (1.15–1.86)	1.52 (1.20–1.93)
Q4	255/52,518	2.23 (1.79–2.80)	2.14 (1.71–2.68)	2.05 (1.64–2.58)
P for trend		< 0.001	< 0.001	< 0.001
Per 1 unit increase		1.50 (1.35–1.66)	1.47 (1.33–1.63)	1.42 (1.28–1.58)
TyG-BMI index				
Q1	121/52,859	Reference	Reference	Reference
Q2	152/52,889	1.11 (0.87–1.42)	1.06 (0.83–1.35)	1.17 (0.92–1.50)
Q3	170/52,913	1.32 (1.04–1.66)	1.20 (0.94–1.52)	1.30 (1.02–1.65)
Q4	268/52,236	2.19 (1.76–2.73)	1.92 (1.53–2.41)	2.07 (1.64–2.60)
P for trend		< 0.001	< 0.001	< 0.001
Per 100 units increase		1.65 (1.47–1.85)	1.53 (1.36–1.73)	1.54 (1.37–1.74)
TyG-WC index				
Q1	109/53,284	Reference	Reference	Reference
Q2	144/53,142	1.25 (0.97–1.60)	1.18 (0.92–1.52)	1.28 (0.99–1.65)
Q3	162/52,883	1.38 (1.08–1.77)	1.27 (0.99–1.63)	1.37 (1.06–1.76)
Q4	286/51,589	2.52 (2.00–3.16)	2.21 (1.75–2.80)	2.29 (1.80–2.90)
P for trend		< 0.001	< 0.001	< 0.001
Per 100 units increase		1.27 (1.22-1.33)	1.24 (1.18-1.30)	1.23 (1.18-1.29)
TyG-WHtR index				
Q1	120/53,190	Reference	Reference	Reference
Q2	133/53,033	1.05 (0.82-1.34)	0.99 (0.85-1.15)	1.08 (0.84-1.38)
Q3	179/52,850	1.39 (1.10-1.75)	1.02 (0.88-1.19)	1.37 (1.08-1.74)
Q4	269/51,824	2.16 (1.73-2.68)	1.37 (1.18-1.59)	1.94 (1.55-2.44)
P for trend		< 0.001	< 0.001	< 0.001
Per 1 unit increase		1.45 (1.34-1.56)	1.38 (1.27-1.49)	1.36 (1.26-1.48)

Note. TyG, triglyceride glucose index; BMI, body mass index; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; HR, hazard ratio; CI, confidence interval. Model 1: The multivariable models were adjusted for age, sex, race, TDI. Model 2: The multivariable models were further adjusted for education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD. Model 3: The multivariable models were further adjusted for HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication.

Supplementary Table S5. Associations between TyG-related indices and diabetic kidney disease in individuals with T2D (*n* = 17,619)

	Cases/ person-years	***HR* (95% *CIs*)**		
		Model 1	Model 2	Model 3
TyG index				
Q1	358/52,180	Reference	Reference	Reference
Q2	468/52,217	1.27 (1.10–1.46)	1.25 (1.09–1.43)	1.26 (1.10–1.45)
Q3	461/51,840	1.29 (1.12–1.48)	1.25 (1.08–1.43)	1.24 (1.08–1.43)
Q4	532/51,976	1.60 (1.39–1.83)	1.55 (1.35–1.77)	1.47 (1.28–1.69)
P for trend		< 0.001	< 0.001	< 0.001
Per 1 unit increase		1.25 (1.17–1.34)	1.24 (1.16–1.32)	1.21 (1.13–1.29)
TyG-BMI index				
Q1	333/52,309	Reference	Reference	Reference
Q2	432/52,128	1.25 (1.09–1.45)	1.18 (1.02–1.37)	1.20 (1.04–1.39)
Q3	491/52,143	1.50 (1.31–1.73)	1.35 (1.17–1.56)	1.35 (1.17–1.56)
Q4	563/51,633	2.05 (1.78–2.35)	1.77 (1.53–2.04)	1.74 (1.51–2.01)
P for trend		< 0.001	< 0.001	< 0.001
Per 100 units increase		1.59 (1.47–1.71)	1.46 (1.34–1.57)	1.43 (1.32–1.55)
TyG-WC index				
Q1	325/52,750	Reference	Reference	Reference
Q2	419/52,423	1.23 (1.07–1.43)	1.15 (0.99–1.33)	1.15 (0.99–1.33)
Q3	494/52,022	1.53 (1.33–1.77)	1.39 (1.20–1.61)	1.38 (1.19–1.59)
Q4	581/58,018	2.06 (1.78–2.37)	1.79 (1.55–2.06)	1.73 (1.49–2.00)
P for trend		< 0.001	< 0.001	< 0.001
Per 100 units increase		1.19 (1.16–1.23)	1.16 (1.12–1.19)	1.14 (1.11–1.18)
TyG-WHtR index				
Q1	311/52,706	Reference	Reference	Reference
Q2	439/52,209	1.36 (1.17–1.57)	1.27 (1.09–1.47)	1.27 (1.10–1.47)
Q3	428/52,198	1.46 (1.26–1.69)	1.32 (1.14–1.53)	1.32 (1.14–1.53)
Q4	601/51,100	2.15 (1.87–2.47)	1.86 (1.61–2.14)	1.80 (1.56–2.08)
P for trend		< 0.001	< 0.001	< 0.001
Per 1 unit increase		1.37 (1.30–1.44)	1.29 (1.23–1.36)	1.27 (1.20–1.34)

Note. TyG, triglyceride glucose index; BMI, body mass index; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; HR, hazard ratio; CI, confidence interval. Model 1: The multivariable models were adjusted for age, sex, race, TDI. Model 2: The multivariable models were further adjusted for education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD. Model 3: The multivariable models were further adjusted for HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication.

Supplementary Table S6. Associations Between TyG index and microvascular complications in individuals with T2D (*n* = 17,619), stratified by age, sex, race, HbA1c, diabetes duration, educational level, use of diabetes medication, use of antihypertensive medication, and use of lipid-lowering medication

Subgroups	Composite microvascular complications			Diabetic retinopathy			Diabetic neuropathy			Diabetic kidney disease		
	HR (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction
Age, years			0.03			0.011			0.189			0.725
<60	1.24 (1.14–1.34)	<0.001		1.26 (1.14–1.40)	<0.001		1.41 (1.21–1.64)	<0.001		1.19 (1.05–1.35)	0.006	
≥60	1.17 (1.09–1.24)	<0.001		1.16 (1.05–1.28)	0.004		1.32 (1.13–1.55)	<0.001		1.19 (1.09–1.30)	<0.001	
Sex			0.78			0.318			0.848			0.809
Female	1.21 (1.11–1.32)	<0.001		1.27 (1.12–1.43)	<0.001		1.37 (1.12–1.66)	0.002		1.22 (1.08–1.38)	0.002	
Male	1.22 (1.15–1.30)	<0.001		1.24 (1.14–1.36)	<0.001		1.43 (1.27–1.63)	<0.001		1.20 (1.10–1.30)	<0.001	
Race			0.234			0.223			0.839			0.293
Other	1.25 (1.07–1.45)	0.004		1.20 (0.99–1.46)	0.067		1.20 (0.83–1.72)	0.335		1.35 (1.09–1.69)	0.007	
White	1.21 (1.15–1.28)	<0.001		1.25 (1.15–1.35)	<0.001		1.43 (1.28–1.59)	<0.001		1.20 (1.11–1.29)	<0.001	
HbA1c, mmol/mol			0.765			0.21			0.754			0.771
< 53	1.20 (1.10–1.31)	<0.001		1.05 (0.91–1.22)	0.48		1.49 (1.22–1.82)	<0.001		1.24 (1.11–1.39)	<0.001	

≥ 53	1.19 (1.11–1.26)	<0.001		1.20 (1.11–1.31)	< 0.001		1.37 (1.21–1.56)	<.001		1.19 (1.09–1.31)	<0.001	
Diabetes duration, years			0.489			0.101			0.317			0.264
< 3	1.28 (1.18–1.39)	<0.001		1.41 (1.23–1.61)	< 0.001		1.56 (1.29–1.88)	<.001		1.17 (1.04–1.32)	0.008	
≥ 3	1.12 (1.05–1.19)	<0.001		1.04 (0.95–1.14)	0.363		1.32 (1.15–1.51)	<.001		1.18 (1.08–1.30)	<0.001	
Educational level			0.044			0.019			0.666			0.152
Other	1.27 (1.20–1.34)	<0.001		1.35 (1.24–1.46)	<0.001		1.43 (1.27–1.60)	<.001		1.23 (1.14–1.33)	<0.001	
College or university	1.10 (0.98–1.22)	0.094		1.03 (0.90–1.20)	0.64		1.44 (1.12–1.87)	0.005		1.15 (0.97–1.35)	0.106	
Use of diabetes medication			0.816			0.065			0.443			0.919
No	1.28 (1.16–1.42)	<0.001		1.40 (1.19–1.65)	<0.001		1.38 (1.08–1.77)	0.01		1.28 (1.11–1.48)	<0.001	
Yes	1.13 (1.07–1.20)	<0.001		1.08 (0.99–1.17)	0.087		1.35 (1.19–1.53)	<0.001		1.16 (1.06–1.26)	<0.001	
Use of antihypertensive medication			0.171			0.046			0.208			0.855
No	1.31 (1.20–1.43)	<0.001		1.37 (1.22–1.54)	<0.001		1.61 (1.35–1.93)	<0.001		1.26 (1.09–1.45)	0.002	

Yes	1.15 (1.08–1.23)	<0.001		1.12 (1.02–1.23)	0.02		1.34 (1.17–1.54)	<0.001		1.17 (1.08–1.27)	<0.001	
Use of lipid–lowering medication			0.585			0.458			0.206			0.741
No	1.19 (1.07–1.31)	<0.001		1.21 (1.06–1.39)	0.005		1.49 (1.21–1.85)	<0.001		1.19 (1.02–1.38)	0.027	
Yes	1.21 (1.15–1.28)	<0.001		1.24 (1.15–1.35)	<0.001		1.38 (1.22–1.55)	<0.001		1.21 (1.12–1.31)	<0.001	

Note. TyG, triglyceride glucose index; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication (except for the strata variable).

Supplementary Table S7. Associations Between TyG-BMI index and microvascular complications in individuals with T2D (*n* = 17,619), stratified by age, sex, race, HbA1c, diabetes duration, educational level, use of diabetes medication, use of antihypertensive medication, and use of lipid-lowering medication.

Subgroups	Composite microvascular complications			Diabetic retinopathy			Diabetic neuropathy			Diabetic kidney disease		
	HR (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction
Age, years			0.785			0.136			0.324			0.654
< 60	1.35 (1.24–1.46)	<0.001		1.26 (1.12–1.42)	<0.001		1.61 (1.38–1.88)	<0.001		1.36 (1.20–1.55)	<0.001	
≥ 60	1.34 (1.23–1.45)	<0.001		1.15 (1.01–1.31)	0.033		1.40 (1.16–1.69)	<0.001		1.46 (1.32–1.62)	<0.001	
Sex			0.574			0.738			0.539			0.402
Female	1.35 (1.24–1.47)	<0.001		1.28 (1.13–1.45)	<0.001		1.55 (1.28–1.87)	<0.001		1.39 (1.23–1.58)	<0.001	
Male	1.35 (1.25–1.46)	<0.001		1.19 (1.06–1.34)	0.003		1.54 (1.32–1.80)	<0.001		1.46 (1.32–1.63)	<0.001	
Race			0.091			0.124			0.198			0.803
Other	1.34 (1.10–1.62)	0.004		1.30 (1.00–1.69)	0.052		1.18 (0.74–1.90)	0.487		1.45 (1.11–1.91)	0.007	
White	1.35 (1.27–1.43)	<0.001		1.22 (1.11–1.33)	<0.001		1.55 (1.37–1.75)	<0.001		1.43 (1.32–1.56)	<0.001	
HbA1c, mmol/mol			0.853			0.938			0.569			0.303
< 53	1.33 (1.21–1.46)	<0.001		1.22 (1.04–1.42)	0.015		1.48 (1.21–1.80)	<0.001		1.39 (1.23–1.57)	<0.001	

≥ 53	1.32 (1.23–1.43)	<0.001		1.15 (1.04–1.28)	0.009		1.54 (1.33–1.80)	<0.001		1.46 (1.31–1.63)	<0.001	
Diabetes duration, years			0.558			0.52			0.129			0.448
< 3	1.40 (1.27–1.54)	<0.001		1.17 (0.99–1.37)	0.064		1.81 (1.47–2.23)	<0.001		1.50 (1.32–1.71)	<0.001	
≥ 3	1.26 (1.17–1.36)	<0.001		1.14 (1.02–1.26)	0.018		1.39 (1.19–1.61)	<0.001		1.35 (1.22–1.50)	<0.001	
Educational level			0.617			0.981			0.457			0.042
Other	1.34 (1.26–1.44)	<0.001		1.23 (1.12–1.36)	<0.001		1.57 (1.38–1.79)	<0.001		1.41 (1.29–1.54)	<0.001	
College or university	1.39 (1.23–1.58)	<0.001		1.22 (1.03–1.45)	0.023		1.34 (1.02–1.78)	0.038		1.59 (1.32–1.92)	<0.001	
Use of diabetes medication			0.824			0.452			0.171			0.817
No	1.34 (1.18–1.51)	<0.001		1.18 (0.96–1.45)	0.111		1.86 (1.42–2.44)	<0.001		1.49 (1.27–1.75)	<0.001	
Yes	1.30 (1.22–1.39)	<0.001		1.13 (1.03–1.25)	0.013		1.40 (1.23–1.61)	<0.001		1.39 (1.27–1.53)	<0.001	
Use of antihypertensive			0.158			0.39			0.763			0.072

medication												
No	1.27 (1.14–1.42)	<0.001		1.26 (1.08–1.46)	0.002		1.53 (1.23–1.89)	<0.001		1.31 (1.10–1.56)	0.002	
Yes	1.36 (1.27–1.45)	<0.001		1.16 (1.04–1.29)	0.006		1.55 (1.34–1.79)	<0.001		1.44 (1.32–1.58)	<0.001	
Use of lipid–lowering medication			0.033			0.283			0.878			0.111
No	1.19 (1.06–1.34)	0.003		1.10 (0.93–1.30)	0.275		1.49 (1.19–1.88)	<0.001		1.31 (1.11–1.55)	0.002	
Yes	1.40 (1.31–1.49)	<0.001		1.28 (1.15–1.41)	< 0.001		1.53 (1.33–1.76)	<0.001		1.47 (1.34–1.60)	<0.001	

Note. TyG, triglyceride glucose index; BMI, body mass index; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication (except for the strata variable). The data showed the HRs for TyG-BMI per 100 units increment.

Supplementary Table S8. Associations Between TyG-WC index and microvascular complications in individuals with T2D (*n* = 17,619), stratified by age, sex, race, HbA1c, diabetes duration, educational level, use of diabetes medication, use of antihypertensive medication, and use of lipid-lowering medication.

Subgroups	Composite microvascular complications			Diabetic retinopathy			Diabetic neuropathy			Diabetic kidney disease		
	HR (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction	HR (95% CI)	*P*	*P* for interaction
Age, years			0.106			0.012			0.168			0.831
<60	1.14 (1.10–1.18)	< 0.001		1.11 (1.06–1.16)	< 0.001		1.26 (1.18–1.34)	< 0.001		1.14 (1.09–1.21)	< 0.001	
≥60	1.10 (1.07–1.14)	< 0.001		1.05 (1.00–1.10)	0.067		1.18 (1.10–1.27)	< 0.001		1.14 (1.10–1.19)	< 0.001	
Sex			0.792			0.396			0.7			0.414
Female	1.12 (1.08–1.17)	< 0.001		1.11 (1.06–1.17)	< 0.001		1.23 (1.13–1.33)	< 0.001		1.13 (1.07–1.19)	< 0.001	
Male	1.12 (1.09–1.16)	< 0.001		1.07 (1.03–1.12)	0.002		1.23 (1.16–1.30)	< 0.001		1.15 (1.11–1.20)	< 0.001	
Race			0.305			0.15			0.65			0.849
Other	1.12 (1.03–1.21)	0.005		1.09 (0.99–1.21)	0.092		1.11 (0.93–1.34)	0.252		1.15 (1.03–1.29)	< 0.001	
White	1.12 (1.10–1.15)	< 0.001		1.08 (1.05–1.12)	< 0.001		1.23 (1.17–1.29)	< 0.001		1.15 (1.11–1.18)	< 0.001	
HbA1c, mmol/mol			0.6			0.954			0.96			0.043
< 53	1.11 (1.07–1.15)	< 0.001		1.07 (1.00–1.13)	0.045		1.24 (1.15–1.34)	< 0.001		1.11 (1.06–1.17)	< 0.001	

≥ 53	1.12 (1.09–1.15)	< 0.001		1.06 (1.02–1.11)	0.003		1.22 (1.15–1.29)	< 0.001		1.17 (1.12–1.22)	< 0.001	
Diabetes duration, years			0.864			0.193			0.137			0.795
<3	1.13 (1.09–1.18)	< 0.001		1.08 (1.01–1.15)	0.024		1.30 (1.20–1.42)	< 0.001		1.14 (1.09–1.21)	< 0.001	
≥3	1.10 (1.07–1.13)	< 0.001		1.05 (1.00–1.09)	0.031		1.19 (1.12–1.26)	< 0.001		1.13 (1.09–1.18)	< 0.001	
Educational level			0.182			0.693			0.605			0.052
Other	1.13 (1.10–1.15)	< 0.001		1.09 (1.05–1.14)	< 0.001		1.24 (1.18–1.31)	< 0.001		1.14 (1.10–1.18)	< 0.001	
College or university	1.13 (1.08–1.19)	< 0.001		1.08 (1.01–1.15)	0.022		1.18 (1.07–1.32)	0.002		1.18 (1.10–1.27)	< 0.001	
Use of diabetes medication			0.229			0.562			0.64			0.536
No	1.10 (1.05–1.16)	< 0.001		1.05 (0.97–1.14)	0.261		1.29 (1.15–1.45)	< 0.001		1.15 (1.08–1.22)	< 0.001	
Yes	1.11 (1.08–1.14)	< 0.001		1.05 (1.01–1.09)	0.006		1.19 (1.13–1.26)	< 0.001		1.14 (1.09–1.18)	< 0.001	
Use of antihypertensive			0.027			0.701			0.624			0.013

medication												
No	1.10 (1.05–1.14)	< 0.001		1.10 (1.04–1.16)	0.001		1.22 (1.13–1.33)	< 0.001		1.09 (1.02–1.17)	0.008	
Yes	1.13 (1.10–1.16)	< 0.001		1.06 (1.02–1.11)	0.006		1.24 (1.17–1.31)	< 0.001		1.15 (1.11–1.20)	< 0.001	
Use of lipid–lowering medication			0.012			0.152			0.721			0.119
No	1.06 (1.01–1.11)	0.01		1.03 (0.96–1.10)	0.416		1.18 (1.08–1.29)	< 0.001		1.10 (1.03–1.17)	0.004	
Yes	1.14 (1.11–1.17)	< 0.001		1.11 (1.07–1.15)	< 0.001		1.24 (1.17–1.31)	< 0.001		1.16 (1.12–1.20)	< 0.001	

Note. TyG, triglyceride glucose index; WC, waist circumference; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication (except for the strata variable). The data showed the HRs for TyG-WC per 100 units increment.

Supplementary Table S9. Associations Between TyG-WHtR index and microvascular complications in individuals with T2D (*n* = 17,619), stratified by age, sex, race, HbA1c, diabetes duration, educational level, use of diabetes medication, use of antihypertensive medication, and use of lipid-lowering medication

Subgroups	Composite microvascular complications			Diabetic retinopathy			Diabetic neuropathy			Diabetic kidney disease		
	HR (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction	*HR* (95% *CI*)	*P*	*P* for interaction
Age, years			0.052			0.019			0.049			0.556
< 60	1.26 (1.19–1.33)	< 0.001		1.20 (1.11–1.29)	< 0.001		1.44 (1.30–1.61)	< 0.001		1.27 (1.16–1.39)	< 0.001	
≥ 60	1.18 (1.12–1.24)	< 0.001		1.09 (1.01–1.18)	0.033		1.24 (1.10–1.40)	< 0.001		1.26 (1.18–1.35)	< 0.001	
Sex			0.399			0.752			0.691			0.159
Female	1.21 (1.14–1.28)	< 0.001		1.19 (1.09–1.29)	< 0.001		1.36 (1.20–1.55)	< 0.001		1.23 (1.13–1.33)	< 0.001	
Male	1.23 (1.17–1.29)	< 0.001		1.14 (1.06–1.23)	< 0.001		1.36 (1.23–1.50)	< 0.001		1.30 (1.22–1.39)	< 0.001	
Race			0.267			0.081			0.513			0.986
Other	1.22 (1.07–1.38)	0.002		1.18 (1.00–1.40)	0.054		1.16 (0.85–1.58)	0.343		1.28 (1.07–1.54)	0.007	
White	1.22 (1.17–1.27)	< 0.001		1.15 (1.09–1.22)	< 0.001		1.37 (1.26–1.49)	< 0.001		1.28 (1.21–1.35)	< 0.001	
HbA1c, mmol/mol			0.871			0.855			0.935			0.154
< 53	1.20	< 0.001		1.11	0.045		1.37	< 0.001		1.23	< 0.001	

	(1.13–1.28)			(1.00–1.23)			(1.20–1.56)			(1.14–1.34)		
≥ 53	1.21 (1.15–1.27)	< 0.001		1.12 (1.05–1.20)	< 0.001		1.35 (1.22–1.49)	< 0.001		1.31 (1.22–1.40)	< 0.001	
Diabetes duration, years			0.318			0.816			0.142			0.805
< 3	1.26 (1.18–1.35)	< 0.001		1.17 (1.05–1.30)	0.004		1.50 (1.30–1.73)	<.001		1.30 (1.19–1.41)	< 0.001	
≥ 3	1.16 (1.11–1.22)	< 0.001		1.08 (1.01–1.15)	0.031		1.28 (1.16–1.42)	< 0.001		1.23 (1.15–1.32)	< 0.001	
Educational level			0.454			0.911			0.74			0.028
Other	1.23 (1.18–1.28)	< 0.001		1.18 (1.10–1.25)	< 0.001		1.38 (1.26–1.51)	< 0.001		1.27 (1.19–1.34)	< 0.001	
College or university	1.23 (1.13–1.34)	< 0.001		1.13 (1.01–1.26)	0.028		1.28 (1.07–1.54)	0.007		1.35 (1.19–1.52)	< 0.001	
Use of diabetes medication			0.551			0.72			0.451			0.526
No	1.20 (1.10–1.30)	< 0.001		1.10 (0.96–1.26)	0.157		1.50 (1.24–1.81)	< 0.001		1.28 (1.15–1.42)	< 0.001	
Yes	1.20 (1.14–1.25)	< 0.001		1.10 (1.03–1.17)	0.003		1.29 (1.18–1.41)	< 0.001		1.26 (1.18–1.33)	< 0.001	
Use of antihypertensi			0.104			0.448			0.555			0.021

ve medication										
No	1.18 (1.10–1.26)	< 0.001		1.18 (1.07–1.29)	< 0.001		1.40 (1.22–1.61)	< 0.001		1.18 (1.05–1.31)	0.004	
Yes	1.23 (1.17–1.29)	< 0.001		1.11 (1.04–1.19)	0.002		1.35 (1.23–1.49)	< 0.001		1.29 (1.21–1.37)	< 0.001	
Use of lipid–lowering medication			0.023			0.206			0.941			0.147
No	1.11 (1.03–1.19)	0.008		1.05 (0.95–1.17)	0.348		1.29 (1.11–1.50)	0.001		1.19 (1.06–1.33)	0.002	
Yes	1.25 (1.20–1.31)	< 0.001		1.20 (1.12–1.27)	< 0.001		1.38 (1.25–1.51)	< 0.001		1.29 (1.22–1.37)	< 0.001	

Note. TyG, triglyceride glucose index; WHtR, waist-to-height ratio; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication (except for the strata variable).

Supplementary Table S10. Sensitivity analyses: associations between TyG index and microvascular complications in individuals with T2D when excluding patients with events that occurred within the first 2 years of follow-up

	TyG index				*P* for trend	Continuous
	Q1	Q2	Q3	Q4		
Composite microvascular complications (*n* = 17467)						
Cases/person-years	644/50,568	781/50,534	799/50,159	951/49,752		
HR (95% *CI*)	Reference	1.22 (1.10–1.35)	1.25 (1.12–1.39)	1.50 (1.35–1.66)	< 0.001	1.23 (1.17–1.29)
Diabetic retinopathy (*n* = 17531)						
Cases/person-years	297/51,946	315/52,233	348/51,747	436/51,687		
HR (95% *CI*)	Reference	1.15 (0.98–1.35)	1.29 (1.10–1.51)	1.55 (1.34–1.81)	< 0.001	1.30 (1.21–1.39)
Diabetic neuropathy (*n* = 17571)						
Cases/person-years	102/52,787	146/52,947	168/52,549	237/52,555		
HR (95% *CI*)	Reference	1.44 (1.12–1.86)	1.61 (1.25–2.06)	2.11 (1.66–2.67)	< 0.001	1.44 (1.29–1.60)
Diabetic kidney disease (*n* = 17595)						
Cases/person-years	354/52,159	462/52,208	454/51,843	525/5,1970		
HR (95% *CI*)	Reference	1.26 (1.10–1.45)	1.24 (1.08–1.43)	1.47 (1.28–1.70)	< 0.001	1.20 (1.12–1.29)

Note. TyG, triglyceride glucose index; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication.

Supplementary Table S11. Sensitivity analyses: associations between TyG-BMI index and microvascular complications in individuals with T2D when excluding patients with events that occurred within the first 2 years of follow-up

	TyG-BMI index				*P* for trend	Continuous
	Q1	Q2	Q3	Q4		
Composite microvascular complications (*n* = 17,467)						
Cases/person-years	655/50,512	746/50,494	804/50,418	970/49,610		
HR (95% *CI*)	Reference	1.13 (1.01–1.25)	1.21 (1.09–1.35)	1.62 (1.46–1.80)	< 0.001	1.36 (1.28–1.44)
Diabetic retinopathy (*n* = 17,531)						
Cases/person-years	340/51,752	310/52,095	342/52,059	404/51,708		
HR (95% *CI*)	Reference	1.01 (0.87–1.18)	1.14 (0.98–1.33)	1.44 (1.23–1.68)	< 0.001	1.27 (1.16–1.39)
Diabetic neuropathy (*n* = 17,571)						
Cases/person-years	113/52,806	131/52,871	154/52,942	255/52,219		
HR (95% *CI*)	Reference	1.16 (0.90–1.49)	1.26 (0.98–1.62)	2.13 (1.68–2.70)	< 0.001	1.56 (1.38–1.76)
Diabetic kidney disease (*n* = 17,595)						
Cases/person-years	331/52,266	427/52,101	484/52,153	553/51,659		
HR (95% *CI*)	Reference	1.20 (1.03–1.38)	1.34 (1.16–1.55)	1.72 (1.49–1.99)	< 0.001	1.42 (1.31–1.54)

Note. TyG, triglyceride glucose index; BMI, body mass index; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication.

Supplementary Table S12. Sensitivity analyses: associations between TyG-WC index and microvascular complications in individuals with T2D when excluding patients with events that occurred within the first 2 years of follow-up

	TyG-WC index				*P* for trend	Continuous
	Q1	Q2	Q3	Q4		
Composite microvascular complications (*n* = 17,467)						
Cases/person-years	654/5,0933	729/50,778	802/50,328	990/48,994		
HR (95% *CI*)	Reference	1.07 (0.96–1.19)	1.21 (1.09–1.34)	1.58 (1.42–1.76)	< 0.001	1.13 (1.10–1.15)
Diabetic retinopathy (*n* = 17,531)						
Cases/person–years	341/52,185	312/52,320	337/52,017	406/51,091		
HR (95% *CI*)	Reference	0.99 (0.85–1.16)	1.13 (0.96–1.32)	1.42 (1.21–1.66)	< 0.001	1.11 (1.07–1.14)
Diabetic neuropathy (*n* = 17,571)						
Cases/person-years	100/53,245	136/53,075	149/52,883	268/51,636		
HR (95% *CI*)	Reference	1.32 (1.01–1.72)	1.38 (1.06–1.80)	2.37 (1.85–3.03)	< 0.001	1.24 (1.18–1.30)
Diabetic kidney disease (*n* = 17,595)						
Cases/person-years	323/52,716	414/52,392	487/52,014	571/51,057		
HR (95% *CI*)	Reference	1.15 (0.99–1.33)	1.37 (1.18–1.58)	1.71 (1.48–1.98)	< 0.001	1.14 (1.11–1.18)

Note. TyG, triglyceride glucose index; WC, waist circumference; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; eGFR, estimated glomerular filtration rate; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication.

Supplementary Table S13. Sensitivity analyses: associations between TyG-WHtR index and microvascular complications in individuals with T2D when excluding patients with events that occurred within the first 2 years of follow-up

	TyG-WHtR index				*P* for trend	Continuous
	Q1	Q2	Q3	Q4		
Composite microvascular complications (*n* = 17,467)						
Cases/person-years	628/50,977	747/50,527	784/50,497	1016/49,032		
HR (95% *CI*)	Reference	1.16 (1.04–1.29)	1.20 (1.08–1.33)	1.64 (1.48–1.82)	< 0.001	1.23 (1.18–1.28)
Diabetic retinopathy (*n* = 17,531)						
Cases/person-years	320/52,215	314/52,096	333/52,156	429/51,146		
HR (95% *CI*)	Reference	1.07 (0.91–1.26)	1.15 (0.98–1.35)	1.53 (1.31–1.78)	< 0.001	1.19 (1.13–1.26)
Diabetic neuropathy (*n* = 17,571)						
Cases/person-years	112/53,143	125/52,978	162/52,890	254/51,828		
HR (95% *CI*)	Reference	1.09 (0.84–1.41)	1.33 (1.04–1.70)	1.98 (1.57–2.51)	< 0.001	1.38 (1.27–1.49)
Diabetic kidney disease (*n* = 17,595)						
Cases/person-years	309/52,666	433/52,189	462/52,200	591/51,124		
HR (95% *CI*)	Reference	1.26 (1.09–1.46)	1.31 (1.13–1.52)	1.78 (1.54–2.06)	< 0.001	1.26 (1.20–1.33)

Note. TyG, triglyceride glucose index; WHtR, waist-to-height ratio; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; eGFR, estimated glomerular filtration rate; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, history of CVD, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication.

Supplementary Table S14. Sensitivity analyses: associations between TyG index and microvascular complications in individuals with T2D when eGFR was further adjusted (*n* = 17,619)

	TyG index				*P* for trend	Continuous
	Q1 < 8.812	Q2 8.812 ≤ TyG < 9.264	Q3 9.264 ≤ TyG < 9.758	Q4 ≥ 9.758		
Composite microvascular complications						
HR (95% *CI*)	Reference	1.20 (1.08–1.33)	1.23 (1.11–1.36)	1.53 (1.38–1.69)	< 0.001	1.25 (1.19–1.31)
Diabetic retinopathy						
HR (95% *CI*)	Reference	1.12 (0.96–1.31)	1.23 (1.06–1.43)	1.49 (1.29–1.72)	< 0.001	1.27 (1.18–1.36)
Diabetic neuropathy						
HR (95% *CI*)	Reference	1.42 (1.11–1.81)	1.52 (1.20–1.93)	2.07 (1.65–2.60)	< 0.001	1.43 (1.29–1.58)
Diabetic kidney disease						
HR (95% *CI*)	Reference	1.22 (1.06–1.41)	1.22 (1.06–1.40)	1.54 (1.34–1.76)	< 0.001	1.24 (1.16–1.33)

Note. TyG, triglyceride glucose index; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; eGFR, estimated glomerular filtration rate; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication, eGFR.

Supplementary Table S15. Sensitivity analyses: associations between TyG-BMI index and microvascular complications in individuals with T2D when eGFR was further adjusted (*n* = 17,619)

	TyG-BMI index				*P* for trend	Continuous (per 100 units)
	Q1 < 249.813	Q2 249.813 ≤ TyG-BMI < 286.545	Q3 286.545 ≤ TyG-BMI < 329.489	Q4 ≥ 329.489		
Composite microvascular complications						
HR (95% *CI*)	Reference	1.11 (1.00–1.23)	1.15 (1.04–1.28)	1.46 (1.31–1.62)	< 0.001	1.27 (1.20–1.35)
Diabetic retinopathy						
HR (95% *CI*)	Reference	0.99 (0.85–1.15)	1.12 (0.96–1.30)	1.38 (1.19–1.61)	< 0.001	1.25 (1.14–1.36)
Diabetic neuropathy						
HR (95% *CI*)	Reference	1.17 (0.91–1.50)	1.29 (1.02–1.65)	2.05 (1.63–2.58)	< 0.001	1.53 (1.36–1.73)
Diabetic kidney disease						
HR (95% *CI*)	Reference	1.16 (1.01–1.34)	1.21 (1.05–1.40)	1.40 (1.21–1.62)	< 0.001	1.23 (1.14–1.34)

Note. TyG, triglyceride glucose index; BMI, body mass index; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; eGFR, estimated glomerular filtration rate; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication, eGFR.

Supplementary Table S16. Sensitivity analyses: associations between TyG-WC index and microvascular complications in individuals with T2D when eGFR was further adjusted (*n* = 17,619)

	TyG-WC index				*P* for trend	Continuous (per 100 units)
	Q1 < 848.555	Q2 848.555 ≤ TyG-BMI < 952.916	Q3 952.916 ≤ TyG-BMI < 1,064.157	Q4 ≥ 1064.157		
Composite microvascular complications						
HR (95% *CI*)	Reference	1.04 (0.93–1.15)	1.14 (1.03–1.26)	1.44 (1.30–1.60)	< 0.001	1.10 (1.08–1.13)
Diabetic retinopathy						
HR (95% *CI*)	Reference	0.99 (0.85–1.15)	1.10 (0.94–1.28)	1.36 (1.17–1.58)	< 0.001	1.09 (1.06–1.13)
Diabetic neuropathy						
HR (95% *CI*)	Reference	1.27 (0.99–1.64)	1.36 (1.05–1.75)	2.27 (1.79–2.87)	< 0.001	1.23 (1.17–1.29)
Diabetic kidney disease						
HR (95% *CI*)	Reference	1.06 (0.92–1.23)	1.21 (1.05–1.40)	1.42 (1.23–1.65)	< 0.001	1.09 (1.06–1.12)

Note. TyG, triglyceride glucose index; WC, waist circumference; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; eGFR, estimated glomerular filtration rate; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication, eGFR.

Supplementary Table S17. Sensitivity analyses: associations between TyG-WHtR index and microvascular complications in individuals with T2D when eGFR was further adjusted (*n*=17,619)

	TyG-WHtR index				*P* for trend	Continuous
	Q1 < 5.029	Q2 5.029 ≤ TyG-BMI < 5.632	Q3 5.632 ≤ TyG-BMI < 6.272	Q4 ≥ 6.272		
Composite microvascular complications						
HR (95% *CI*)	Reference	1.13 (1.02–1.25)	1.15 (1.03–1.27)	1.50 (1.36–1.66)	< 0.001	1.19 (1.15–1.24)
Diabetic retinopathy						
HR (95% *CI*)	Reference	1.09 (0.94–1.27)	1.14 (0.98–1.32)	1.45 (1.25–1.68)	< 0.001	1.17 (1.11–1.24)
Diabetic neuropathy						
HR (95% *CI*)	Reference	1.07 (0.84–1.38)	1.36 (1.07–1.73)	1.93 (1.53–2.42)	< 0.001	1.36 (1.26–1.47)
Diabetic kidney disease						
HR (95% *CI*)	Reference	1.18 (1.02–1.36)	1.18 (1.02–1.36)	1.51 (1.31–1.75)	< 0.001	1.18 (1.12–1.24)

Note. TyG, triglyceride glucose index; WHtR, waist-to-height ratio; TDI, Townsend Deprivation Index; CVD, cardiovascular disease; T2D, type 2 diabetes; eGFR, estimated glomerular filtration rate; HR, hazard ratio; CI, confidence interval. The multivariable models were adjusted for age, sex, race, TDI, education level, smoking status, drinking status, leisure-time physical activity, history of hypertension, HbA1c, diabetes duration, use of diabetes medication, use of antihypertensive medication, use of lipid-lowering medication, eGFR.