

**Supplementary Table 1 Spearman correlation between hemoglobin A1c and other variables**

	<i>r</i>	95%CI	<i>P</i> value
Age	-0.062	-0.151 to 0.031	0.185
Duration	-0.005	-0.091 to 0.09	0.916
Body mass index (kg/m <sup>2</sup> )	0.037	-0.06 to 0.137	0.434
FPG	0.442	0.367-0.52	< 0.001
PBG	0.268	0.182-0.348	< 0.001
Total cholesterol (mmol/L)	0.175	0.085-0.26	< 0.001
Triglyceride (mmol/L)	0.022	-0.074 to 0.123	0.634
Low-density lipoprotein cholesterol (mmol/L)	0.155	0.061-0.236	0.001
High-density lipoprotein cholesterol (mmol/L)	0.03	-0.058 to 0.131	0.525
Creatinine (μmol/L)	-0.105	-0.198 to -0.01	0.026
Uric acid (μmol/L)	-0.064	-0.163 to 0.028	0.172
Alanine transaminase (mmol/L)	0.079	-0.014 to 0.171	0.092
FCP	-0.212	-0.297 to -0.122	< 0.001
2hCP	-0.481	-0.547 to -0.411	< 0.001
delta CP	-0.507	-0.574 to -0.434	< 0.001
CP ratio	-0.377	-0.453 to -0.292	< 0.001
FCP/FPG	-0.421	-0.496 to -0.344	< 0.001
2hCP/PBG	-0.588	-0.649 to -0.518	< 0.001
delta CP/BG	-0.542	-0.605 to -0.463	< 0.001
CP/BG	-0.365	-0.451 to -0.277	< 0.001

Data are shown as median (Q25, Q75) or percentage (%). BG: Blood glucose; CP: C-peptide; FCP: Fasting C-peptide; FPG: Fasting plasma glucose; PBG: Postprandial blood glucose; 2hCP: 2 hours postprandial C-peptide.

**Supplementary Table 2 Comparisons between patients with or without diabetic retinopathy**

	No	Yes	P value
Age (years)	61 (55, 68)	62 (55, 68)	0.996
Duration of diabetes (years)	10 (5, 17)	17 (10, 20)	< 0.001
Body mass index (kg/m <sup>2</sup> )	25.3 (23.1, 27.6)	25.1 (22.8, 28.0)	0.74
Hemoglobin A <sub>1c</sub>	8.7 (7.3, 10.5)	9.1 (7.6, 10.3)	0.359
FPG	7.0 (5.8, 8.7)	7.1 (5.4, 9.3)	0.813
PBG	11.8 (9.3, 14.8)	11.8 (9.0, 15.3)	0.916
Total cholesterol (mmol/L)	4.14 (3.49, 4.86)	4.25 (3.54, 5.28)	0.213
Triglyceride (mmol/L)	1.26 (0.95, 1.85)	1.42 (0.99, 1.97)	0.111
Low-density lipoprotein cholesterol (mmol/L)	2.41 (1.79, 3.10)	2.43 (1.84, 3.15)	0.879
High-density lipoprotein cholesterol (mmol/L)	1.06 (0.92, 1.28)	1.06 (0.90, 1.30)	0.968
Creatinine (μmol/L)	62 (53, 75)	67 (55, 79)	0.05
Uric acid (μmol/L)	334 (275, 389)	341 (288, 409)	0.262
Alanine transaminase (mmol/L)	18 (14, 28)	16 (13, 22)	0.025
FCP	324.3 (209.6, 511.1)	244.6 (163.6, 430.8)	0.003
2hCP	975.1 (545.5, 1474.1)	604.9 (360.4, 1007.6)	< 0.001
Delta CP	574.4 (247.3, 981.3)	356.5 (164.2, 670.5)	< 0.001
CP ratio	2.84 (1.90, 3.77)	2.42 (1.62, 3.57)	0.056
FCP/FPG	43.82 (26.63, 70.32)	35.08 (22.18, 54.71)	0.002
2hCP/PBG	77.41 (42.51, 128.97)	49.57 (31.94, 79.25)	< 0.001
Delta CP/BG	27.53 (7.58, 59.04)	12.57 (3.63, 30.35)	< 0.001
CP/BG ratio	1.71 (1.22, 2.29)	1.39 (1.11, 2.05)	0.003

Variables are presented as median (interquartile ranges). BG: Blood glucose; CP: C-peptide; FCP: Fasting C-peptide; FPG: Fasting plasma glucose; PBG: Postprandial blood glucose; 2hCP: 2 hours postprandial C-peptide.

**Supplementary Table 3 Comparisons between patients with or without diabetic peri-neuropathy**

	No	Yes	P value
Age (years)	57 (52, 65)	63 (57, 69)	< 0.001
Duration of diabetes (years)	8 (3, 15)	14 (8, 20)	< 0.001
Body mass index (kg/m <sup>2</sup> )	25.7 (22.8, 27.9)	25.2 (23.1, 27.7)	0.63
Hemoglobin A <sub>1c</sub>	8.7 (7.1, 10.4)	8.8 (7.5, 10.4)	0.263
FPG	6.9 (5.7, 8.5)	7.2 (5.7, 9.2)	0.264
PBG	11.6 (8.9, 14.6)	11.8 (9.4, 15.2)	0.339
Total cholesterol (mmol/L)	4.28 (3.54, 5.30)	4.12 (3.48, 4.89)	0.212
Triglyceride (mmol/L)	1.35 (0.99, 1.89)	1.26 (0.94, 1.87)	0.428
Low-density lipoprotein cholesterol (mmol/L)	2.54 (1.89, 3.35)	2.40 (1.77, 3.05)	0.153
High-density lipoprotein cholesterol (mmol/L)	1.04 (0.91, 1.26)	1.07 (0.92, 1.29)	0.821
Creatinine (μmol/L)	63 (55, 76)	63 (53, 77)	0.785
Uric acid (μmol/L)	341 (285, 418)	333 (277, 390)	0.174
Alanine transaminase (mmol/L)	20 (14, 30)	17 (13, 24)	0.026
FCP	322 (205.8, 552.6)	297.5 (181.5, 448.3)	0.066
2hCP	1014.6 (577.2, 1701.6)	797.1 (450.9, 1228.6)	< 0.001
Delta CP	687.4 (268.3, 1201.2)	438.6 (194.1, 844.3)	< 0.001
CP ratio	2.82 (1.92, 3.81)	2.65 (1.71, 3.66)	0.218
FCP/FPG	49.07 (26.43, 81.40)	39.53 (23.61, 60.98)	0.008
2hCP/PBG	90.22 (45.44, 134.15)	61.97 (34.58, 102.08)	< 0.001
Delta CP/BG	28.28 (10.61, 64.58)	20.76 (3.72, 49.98)	< 0.001
CP/BG ratio	1.71 (1.27, 2.26)	1.54 (1.14, 2.17)	0.115

Variables are presented as median (interquartile ranges). BG: Blood glucose; CP: C-peptide; FCP: Fasting C-peptide; FPG: Fasting plasma glucose; PBG: Postprandial blood glucose; 2hCP: 2 hours postprandial C-peptide.

**Supplementary Table 4 Comparisons between patients with or without diabetic kidney disease**

	No	Yes	P value
Age (years)	61 (55, 67)	63 (55, 69)	0.234
Duration of diabetes (years)	12 (5, 18)	14 (9, 20)	0.004
Body mass index (kg/m <sup>2</sup> )	25.0 (22.9, 27.7)	25.5 (23.2, 27.8)	0.442
Hemoglobin A <sub>1c</sub>	8.6 (7.2, 10.2)	9.0 (7.6, 10.6)	0.054
FPG	6.9 (5.7, 8.5)	7.3 (5.7, 9.7)	0.125
PBG	11.8 (9, 14.6)	11.8 (9.6, 15.9)	0.206
Total cholesterol (mmol/L)	4.19 (3.53, 4.98)	4.12 (3.49, 4.93)	0.643
Triglyceride (mmol/L)	1.21 (0.93, 1.76)	1.57 (1.06, 2.18)	< 0.001
Low-density lipoprotein cholesterol (mmol/L)	2.46 (1.84, 3.15)	2.36 (1.79, 3.08)	0.354
High-density lipoprotein cholesterol (mmol/L)	1.08 (0.94, 1.32)	1.03 (0.88, 1.21)	0.007
Creatinine (μmol/L)	61 (52, 73)	70 (55, 82)	< 0.001
Uric acid (μmol/L)	330 (271, 386)	352 (304, 418)	0.003
Alanine transaminase (mmol/L)	18 (13, 27)	17 (14, 25)	0.695
FCP	313.8 (194.5, 494.2)	284.4 (184.7, 499.4)	0.667
2hCP	904.7 (521.1, 1386.1)	757.1 (419.4, 1247.6)	0.052
Delta CP	552.1 (235.8, 914.4)	390.9 (190.3, 833.2)	0.047
CP ratio	2.80 (1.91, 3.82)	2.62 (1.62, 3.62)	0.111
FCP/FPG	42.75 (26.18, 67.82)	38.77 (23.24, 60.20)	0.219

2hCP/PBG	71.06 120.58)	(41.67, 53.23 102.67)	(31.90, 0.008
Delta CP/BG	24.85 (7.50, 56.61)	16.65 (2.99, 41.52)	0.006
CP/BG ratio	1.71 (1.24, 2.28)	1.45 (1.11, 2.08)	0.011

Variables are presented as median (interquartile ranges). BG: Blood glucose; CP: C-peptide; FCP: Fasting C-peptide; FPG: Fasting plasma glucose; PBG: Postprandial blood glucose; 2hCP: 2 hours postprandial C-peptide.