

**Supplementary Table 2.** Mean differences (B [95% CI]) in kidney damage indices among the quartiles of fasting glucagon in 471 patients with well-controlled T2DM (HbA1c <7.0%)

Model	Q1	Q2	Q3	Q4	P value for trend
Fasting glucagon, pg/mL	25.0–108.9	109.0–124.6	124.8–140.3	140.5–254.7	-
Number	117	118	117	119	-
eGFR, mL/min/1.73 m <sup>2</sup>	99.11±23.15	97.69±22.62	96.90±26.92	89.79±24.04	<0.001
Model 0	0–reference	-1.419 (-7.632 to 4.794)	-2.217 (-8.443 to 4.009)	-9.325 (-15.53 to -3.125)	0.004
Model 1	0–reference	-4.624 (-9.916 to 0.699)	-4.711 (-10.03 to 0.602)	-9.435 (-14.69 to -4.718)	0.001
Model 2	0–reference	-3.536 (-8.509 to 1.436)	-2.284 (-7.320 to 2.756)	-7.258 (-12.23 to -2.287)	0.010
Model 3	0–reference	-3.518 (-8.379 to 1.342)	-0.936 (-5.916 to 4.043)	-7.213 (-12.09 to -2.337)	0.015
Log <sub>10</sub> UACR, mg/g	1.283±0.399	1.327±0.413	1.406±0.446	1.543±0.487	<0.001
Model 0	0–reference	0.044 (-0.068 to 0.156)	0.122 (0.010 to 0.235)	0.260 (0.148 to 0.372)	<0.001
Model 1	0–reference	0.059 (-0.049 to 0.166)	0.132 (0.024 to 0.240)	0.248 (0.141 to 0.354)	<0.001
Model 2	0–reference	0.023 (-0.079 to 0.124)	0.101 (-0.001 to 0.204)	0.203 (0.101 to 0.304)	<0.001
Model 3	0–reference	0.020 (-0.082 to 0.121)	0.095 (-0.009 to 0.199)	0.208 (0.106 to 0.310)	<0.001

Values are presented as range, number, mean ± standard deviation, or mean difference (95% confidence interval).

Model 0: crude; Model 1: adjusted for age, sex, diabetic duration, body mass index, systolic blood pressure, diastolic blood pressure, statins medication, and hypertension; Model 2: additionally adjusted for lipid profiles, serum uric acid, serum albumin, hemoglobin, homeostasis model assessment of insulin resistance using C-peptide, area under the C-peptide curve, area under the glucose curve, postchallenge 2-hour glucose, and HbA1c; Model 3: additionally adjusted for glucose-lowering therapies.

CI, confidence interval; T2DM, type 2 diabetes mellitus; HbA1c, glycosylated hemoglobin; eGFR, estimated glomerular filtration rate; UACR, urinary albumin-to-creatinine ratio.