Online Appendix Table: Characteristics by categories of hemoglobin A1c (A1C)

	[1] A1C <6.0%	[2] A1C 6.0 - 6.4%	[3] A1C ≥6.5%	1 vs. 2 p value	1 vs. 3 p value	2 vs. 3 p value	p for trend
Number	766	45	44	-	-	-	-
Age *	59.7 ± 0.3	61.6 ± 1.3	59.6 ± 1.3	0.151	0.936	0.217	0.602
Female (%) *	57.3 (53.8 – 60.8)	51.1 (36.8 – 65.2)	61.4 (46.4 – 74.4)	0.415	0.597	0.331	0.894
Ethnicity (%): *				0.107	0.013	0.467	0.004
African Americans	24.5 (21.6 – 27.7)	28.9 (17.6 – 43.6)	38.7 (25.6 – 53.6)				
Hispanics	33.3 (30.0 – 36.7)	44.4 (30.8 – 59.0)	36.4 (23.6 – 51.4)				
Non-Hispanic whites	42.2 (38.7 – 45.7)	26.7 (15.8 – 41.3)	25.0 (14.4 – 39.7)				
BMI (kg/m^2)	28.4 ± 0.2	35.0 ± 0.8	32.2 ± 0.8	<0.001	<0.001	0.052	<0.001
Waist circumference (cm)	91.4 ± 0.4	104.2 ± 1.7	100.5 ± 1.8	<0.001	<0.001	0.161	<0.001
Systolic blood pressure (mm Hg)	126.0 ± 0.6	129.0 ± 2.5	130.9 ± 2.6	0.245	0.061	0.937	0.034
Diastolic blood pressure (mm Hg)	77.6 ± 0.3	78.2 ± 1.3	79.6 ± 1.4	0.700	0.158	0.880	0.155
Antihypertensive medications (%)	20.4 (17.2 – 24.1)	29.6 (18.2 – 44.4)	17.4 (9.1 – 30.6)	0.138	0.584	0.135	0.875
Triglyceride concentration (mg/dl) †	111.3 ± 2.1	118.4 ± 9.3	141.7 ± 11.2	0.449	0.002	0.184	0.002
HDL cholesterol concentration (mg/dl)	50.2 ± 0.5	43.6 ± 2.1	43.4 ± 2.1	0.003	0.002	0.787	<0.001
Total cholesterol concentration (mg/dl)	209.0 ± 1.3	205.7 ± 5.3	202.2 ± 5.4	0.519	0.214	0.354	0.178
Treatment with lipid-lowering agents (%)	4.6 (3.2 – 6.8)	8.7 (3.4 – 20.7)	5.7 (1.8 – 17.1)	0.189	0.715	0.649	0.389
Fasting glucose concentration (mg/dl)	98.1 ± 0.6	118.0 ± 2.5	160.4 ± 2.5	<0.001	<0.001	<0.001	<0.001
2-h glucose concentration (mg/dl)	133.5 ± 1.7	182.1 ± 7.2	271.7 ± 7.3	<0.001	<0.001	<0.001	<0.001
HOMA IR †	3.61 ± 0.08	7.92 ± 0.73	8.18 ± 0.76	<0.001	<0.001	0.971	<0.001
HOMA2 %S	67.3 ± 1.3	38.6 ± 5.6	47.2 ± 5.6	<0.001	<0.001	0.185	<0.001
Number of metabolic disorders	1.99 ± 0.05	3.35 ± 0.20	3.39 ± 0.20	<0.001	<0.001	0.889	<0.001
Central obesity (%)	32.6 (28.7 – 36.7)	71.9 (56.5 – 83.5)	67.2 (51.3 – 80.0)	<0.001	<0.001	0.455	<0.001
Elevated triglyceride concentration (%)	28.1 (24.4 – 32.2)	31.3 (18.8 – 47.2)	50.6 (35.0 – 66.1)	0.678	0.004	0.102	0.007

Online Appendix Table (continue)

Low HDL cholesterol concentration (%)	44.6 (40.4 – 48.9)	68.4 (52.8 – 80.7)	67.6 (52.1 – 80.0)	0.004	0.005	0.940	<0.001
Elevated blood pressure (%)	47.4 (43.2 – 51.7)	72.6 (56.0 – 84.6)	61.6 (45.0 – 75.9)	0.005	0.097	0.139	0.008
Elevated fasting glucose (%)	36.6 (32.6 – 40.8)	93.0 (80.1 – 97.8)	93.6 (81.5 – 98.0)	<0.001	<0.001	0.826	<0.001
Metabolic syndrome (%)	34.2 (30.3 – 38.3)	71.3 (56.0 – 82.9)	80.5 (66.1 – 89.7)	<0.001	<0.001	0.519	<0.001
Insulin sensitivity index, S_I ($x10^{-4}$ min^{-1} . μU^{-1} . ml^{-1}) †	1.20 ± 0.04	0.45 ± 0.10	0.46 ± 0.76	<0.001	<0.001	0.994	<0.001
Acute insulin response, AIR ($\mu U/ml$) †	66.0 ± 1.9	51.4 ± 6.3	27.2 ± 3.4	0.041	<0.001	<0.001	<0.001

Results adjusted for age, sex, race/ethnicity, and center; * Unadjusted results; † Log-transformed variables. These variables were then back-transformed to their units for presentation in the table.

HOMA IR indicates homeostasis model assessment of insulin resistance as defined by Matthew DR et al. (Diabetologia 1985;28:412-419); HOMA2 %S, recalibrated HOMA using computer program by Levy J et al. (Diabetes Care 1998; 21: 2191-2192); Metabolic syndrome and metabolic abnormalities were defined according to the American Heart Association/National Heart, Lung, and Blood Institute criteria (Grundy SM et al. Circulation 2005;112:2735-2752); Direct measures of insulin sensitivity (insulin sensitivity index [S_I]) and β-cell function (acute insulin response [AIR]) were obtained using the frequently sampled intravenous glucose tolerance test (Wagenknecht LE et al. Ann Epidemiol 1995;5:464-472).