

Supplementary Table 1. Geographic Distribution of the Medalist Cohort

STATE	Frequency (N)	Percent (%)
MA	56	16.0
NY	30	8.6
FL	25	7.1
CA	24	6.8
PA	17	4.8
MD	13	3.7
VA	13	3.7
MI	11	3.1
OH	11	3.1
IL	10	2.9
NJ	10	2.9
OR	9	2.6
WA	9	2.6
CT	8	2.3
IN	8	2.3
TX	8	2.3
AZ	7	2.0
ME	7	2.0
TN	7	2.0
MN	6	1.7
NC	6	1.7
NE	5	1.4
CO	4	1.1
MT	4	1.1
NH	4	1.1
SC	4	1.1
WI	4	1.1

IA	3	0.9
ID	3	0.9
KS	3	0.9
RI	3	0.9
UT	3	0.9
WV	3	0.9
AL	2	0.6
GA	2	0.6
NV	2	0.6
VT	2	0.6
AK	1	0.3
AR	1	0.3
HI	1	0.3
NM	1	0.3
OK	1	0.3

Supplementary Table 2. Risk Factor Profiles Among Diabetic Micro and Macrovascular Complications

	Retinopathy			Nephropathy		
	No-mild NPDR Median [Q1, Q3] (N) or % (N)	PDR Median [Q1, Q3] (N) or % (N)	<i>p</i> value	No microalbuminuria Median [Q1, Q3] (N) or % (N)	Microalbuminuria Median [Q1, Q3] (N) or % (N)	<i>p</i> value
Age (years)	68.5 [63.6, 74.0] (135)	65.8 [61.1, 71.5] (163)	0.02	67.2 [62.0, 72.5] (299)	69.6 [63.6, 76.0] (45)	0.08
Duration of diabetes (years)	55.0 [52.0, 60.0] (135)	55.0 [52.0, 58.0] (163)	0.45	54.0 [52.0, 59.0] (299)	57.0 [53.0, 65.0] (45)	0.009
Male Gender	45.9 (62)	47.9 (78)	0.74	46.2 (138)	55.6 (25)	0.24
+ Smoking history	38.6 (51)	42.7 (67)	0.49	37.5 (108)	65.9 (27)	<0.001
Weight (kg)	73.0 [61.4, 81.9] (135)	71.4 [62.7, 82.9] (162)	0.57	70.9 [62.0, 82.0] (296)	75.7 [64.3, 82.6] (44)	0.37
Height (cm)	167.6 [160.0, 175.3] (135)	165.2 [160.3, 174.0] (162)	0.63	166.4 [160.0, 175.3] (296)	166.3 [160.0, 173.3] (44)	0.64
Systolic BP (mmHg)	136.0 [122.0, 149.0] (94)	132.0 [119.0, 146.0] (132)	0.12	134.0 [120.0, 148.0] (231)	135.0 [124.0, 160.0] (38)	0.37
Diastolic BP (mmHg)	60.0 [56.0, 68.0] (94)	60.0 [56.0, 64.0] (132)	0.40	60.0 [56.0, 67.0] (231)	60.0 [56.0, 68.0] (38)	0.43
Mean Arterial Pressure (mmHg)	86.3 [79.3, 94.0] (94)	84.0 [78.0, 91.2] (132)	0.12	84.7 [78.7, 92.7] (231)	86.0 [79.3, 96.0] (38)	0.26
Heart Rate (bpm)	72.0 [64.0, 84.0] (94)	76.0 [64.0, 84.0] (130)	0.19	72.0 [65.0, 84.0] (231)	74.0 [64.0, 84.0] (37)	0.52
Current HbA1c (%)	7.2 [6.7, 7.8] (131)	7.2 [6.6, 7.9] (158)	0.52	7.2 [6.6, 7.8] (292)	7.5 [6.6, 8.0] (43)	0.09
Total cholesterol (mg/dL)	164.0 [145.0, 183.5] (120)	158.0 [136.0, 183.0] (143)	0.24	159.0 [139.0, 180.5] (268)	171.5 [147.5, 196.5] (40)	0.072
Triglycerides (mg/dL)	68.5 [46.0, 98.0] (120)	67.0 [48.0, 94.0] (143)	0.82	64.0 [46.0, 90.5] (268)	92.5 [64.0, 141.0] (40)	<0.001
HDL (mg/dL)	61.5 [51.0, 78.0] (120)	59.0 [46.0, 75.0] (143)	0.12	59.0 [47.0, 73.5] (268)	55.5 [46.0, 82.0] (40)	0.83
LDL (mg/dL)	82.5 [69.0, 99.0] (120)	83.0 [71.0, 97.0] (143)	0.75	83.0 [68.0, 98.0] (268)	86.5 [77.5, 100.5] (40)	0.19
LP(a) (mg/dL)	9.1 [4.6, 17.0] (56)	13.0 [5.5, 32.8] (60)	0.10	8.7 [4.5, 25.0] (122)	13.7 [4.7, 25.5] (19)	0.49
Preβ-2 (mg/dL)	1.3 [0.8, 1.9] (56)	1.5 [1.1, 2.0] (61)	0.16	1.4 [0.9, 2.0] (123)	1.9 [1.5, 2.5] (18)	0.02
CRP (mg/L)	1.2 [0.7, 3.4] (117)	1.1 [0.6, 2.9] (137)	0.60	1.2 [0.6, 3.3] (263)	1.6 [0.9, 2.9] (37)	0.21
VCAM (ng/mL)	1609 [1149, 2238] (117)	1597 [1136, 2319] (142)	0.99	1609 [1124, 2270] (262)	2001 [1418, 2492] (39)	0.05
Creatinine (mg/dL)	1.0 [0.9, 1.2] (120)	1.1 [0.9, 1.3] (142)	0.02	1.1 [0.9, 1.2] (267)	1.3 [1.0, 2.0] (40)	<0.001
BUN (mg/dL)	22.0 [17.0, 26.0] (119)	23.0 [19.0, 29.0] (142)	0.05	22.0 [18.0, 27.0] (266)	31.5 [22.0, 43.5] (40)	<0.001
Estimated GFR (ml/min/1.73 m ²)	64.8 [56.3, 76.6] (120)	63.0 [48.7, 72.6] (142)	0.04	64.8 [53.2, 76.5] (267)	50.5 [35.4, 66.1] (40)	<0.001
Cystatin C (mg/L)*	0.9 [0.8, 1.1] (87)	1.0 [0.9, 1.2] (105)	0.008	0.9 [0.8, 1.1] (192)	1.4 [1.1, 1.8] (33)	<0.001

Supplementary Table 2. Risk Factor Profiles Among Diabetic Micro and Macrovascular Complications

	Neuropathy			Cardiovascular Disease		
	No Neuropathy Median [Q1, Q3] (N) or % (N)	Neuropathy Median [Q1, Q3] (N) or % (N)	<i>p</i> value	No CV Disease Median [Q1, Q3] (N) or % (N)	CV Disease Median [Q1, Q3] (N) or % (N)	<i>p</i> value
Age (years)	64.8 [61.1, 70.1] (119)	69.2 [63.4, 74.2] (183)	<0.001	66.1 [60.7, 72.1] (171)	68.4 [63.5, 73.6] (161)	0.02
Duration of diabetes (years)	54.0 [52.0, 56.0] (119)	55.0 [52.0, 60.0] (183)	0.009	54.0 [52.0, 59.0] (171)	56.0 [52.0, 60.0] (161)	0.03
Male Gender	38.7 (46)	50.3 (92)	0.05	40.9 (70)	54.0 (87)	0.02
+ Smoking history	39.1 (45)	40.9 (72)	0.76	39.1 (66)	44.9 (71)	0.28
Weight (kg)	69.7 [61.4, 79.3] (119)	73.6 [64.2, 85.0] (181)	0.03	70.5 [61.1, 79.9] (171)	72.0 [63.1, 84.7] (161)	0.07
Height (cm)	163.0 [158.5, 171.0] (119)	167.6 [160.5, 176.3] (181)	0.003	165.1 [158.5, 173.5] (171)	167.6 [161.0, 175.3] (161)	0.05
Systolic BP (mmHg)	136.0 [121.0, 154.0] (98)	134.0 [120.0, 146.0] (157)	0.16	138.0 [124.0, 150.0] (123)	128.0 [118.0, 146.0] (134)	0.01
Diastolic BP (mmHg)	60.0 [58.0, 68.0] (98)	60.0 [56.0, 66.0] (157)	0.09	60.0 [58.0, 68.0] (123)	60.0 [56.0, 64.0] (134)	0.008
Mean Arterial Pressure (mmHg)	85.7 [80.0, 94.7] (98)	84.7 [78.0, 92.7] (157)	0.09	86.7 [80.7, 95.3] (123)	83.3 [76.7, 91.0] (134)	0.004
Heart Rate (bpm)	74.0 [68.0, 84.0] (98)	72.0 [64.0, 84.0] (156)	0.31	76.0 [68.0, 88.0] (123)	72.0 [64.0, 81.5] (132)	0.002
Current HbA _{1c} (%)	7.2 [6.6, 7.8] (117)	7.2 [6.7, 7.9] (176)	0.80	7.2 [6.6, 7.7] (167)	7.3 [6.7, 8.0] (156)	0.06
Total cholesterol (mg/dL)	168.0 [150.0, 185.0] (105)	157.5 [141.5, 183.0] (164)	0.15	171.0 [153.0, 190.5] (156)	150.0 [132.0, 172.0] (141)	<0.001
Triglycerides (mg/dL)	65.0 [45.0, 93.0] (105)	66.5 [46.5, 95.5] (164)	0.86	64.0 [45.0, 95.5] (156)	69.0 [50.0, 98.0] (141)	0.20
HDL (mg/dL)	62.0 [48.0, 77.0] (105)	60.0 [48.0, 74.5] (164)	0.76	64.0 [51.5, 80.5] (156)	55.0 [44.0, 69.0] (141)	<0.001
LDL (mg/dL)	90.0 [73.0, 106.0] (105)	82.0 [71.0, 96.5] (164)	0.11	90.5 [76.0, 105.5] (156)	78.0 [64.0, 90.0] (141)	<0.001
LP(a) (mg/dL)	6.9 [3.9, 23.1] (35)	10.2 [4.7, 28.5] (77)	0.31	7.6 [3.6, 23.1] (70)	11.0 [6.6, 29.2] (66)	0.04
Preβ-2 (mg/dL)	1.4 [0.8, 1.8] (35)	1.6 [1.1, 2.3] (77)	0.12	1.2 [0.8, 1.8] (71)	1.7 [1.1, 2.4] (65)	0.006
CRP (mg/L)	1.1 [0.7, 2.6] (105)	1.2 [0.6, 2.9] (161)	0.97	1.0 [0.5, 2.2] (152)	1.6 [0.9, 4.2] (137)	<0.001
VCAM (ng/mL)	1445 [959, 2172] (103)	1621 [1206, 2238] (157)	0.02	1534 [1133, 2167] (150)	1741 [1245, 2408] (140)	0.08
Creatinine (mg/dL)	1.0 [0.9, 1.2] (105)	1.1 [1.0, 1.3] (164)	0.02	1.0 [0.9, 1.2] (155)	1.1 [0.9, 1.4] (141)	<0.001
BUN (mg/dL)	21.0 [17.0, 25.0] (105)	23.0 [18.0, 28.5] (164)	0.006	20.0 [17.0, 25.0] (155)	24.0 [19.0, 32.5] (140)	<0.001
Estimated GFR (ml/min/1.73 m ²)	64.8 [52.2, 76.9] (105)	63.1 [52.1, 73.6] (164)	0.23	67.1 [53.5, 77.0] (155)	59.4 [47.7, 69.2] (141)	0.001
Cystatin C (mg/L)*	0.9 [0.8, 1.1] (76)	1.0 [0.9, 1.2] (121)	0.004	0.9 [0.8, 1.1] (113)	1.0 [0.9, 1.3] (103)	<0.001

Supplementary Table 3. Association of Complications with Advanced Glycation Endproducts

Medalists vs. Age-Matched Controls		All Medalists	Age-Matched Controls	P*	P**	P***	
		CML ($\mu\text{mol/mol}$ lysine)	59.8 [49.3, 72.0] (324)	29.8 [26.4, 34.0] (23)	<0.001	<0.001	NA
	CEL ($\mu\text{mol/mol}$ lysine)	5.3 [4.6, 6.0] (324)	4.2 [3.7, 4.8] (23)	<0.001	<0.001	NA	
	Fructose-lysine ($\mu\text{mol/mol}$ lysine)	1004 [718, 1392] (322)	855 [675, 944] (20)	0.02	0.03	NA	
	Pentosidine (pmol/mg protein)	1.0 [0.6, 1.9] (329)	1.1 [0.8, 1.3] (23)	0.87	0.50	NA	
Any Complications		No Severe Complications	Any Severe Complications				
		CML ($\mu\text{mol/mol}$ lysine)	55.8 [46.5, 62.9] (37)	59.9 [49.7, 73.2] (262)	0.08	0.06	0.06
		CEL ($\mu\text{mol/mol}$ lysine)	4.9 [4.5, 5.5] (37)	5.4 [4.7, 6.0] (262)	0.009	0.01	0.01
		Fructose-lysine ($\mu\text{mol/mol}$ lysine)	960 [722, 1253] (37)	1014 [724, 1437] (260)	0.20	0.12	0.13
		Pentosidine (pmol/mg protein)	0.8 [0.5, 1.1] (38)	1.1 [0.6, 2.0] (266)	0.02	0.15	0.14
Retinopathy		No-mild NPDR	PDR				
		CML ($\mu\text{mol/mol}$ lysine)	60.1 [50.8, 71.9] (122)	58.1 [48.7, 72.5] (151)	0.99	0.57	0.53
		CEL ($\mu\text{mol/mol}$ lysine)	5.2 [4.7, 5.9] (122)	5.4 [4.7, 6.2] (151)	0.29	0.08	0.10
		Fructose-lysine ($\mu\text{mol/mol}$ lysine)	1051 [766, 1387] (122)	992 [718, 1413] (149)	0.75	0.69	0.62
		Pentosidine (pmol/mg protein)	0.9 [0.6, 1.8] (126)	1.1 [0.6, 2.2] (152)	0.58	0.78	0.79
Nephropathy		No microalbuminuria	Microalbuminuria				
		CML ($\mu\text{mol/mol}$ lysine)	59.2 [49.2, 71.9] (279)	62.9 [50.5, 79.5] (41)	0.33	0.18	0.25
		CEL ($\mu\text{mol/mol}$ lysine)	5.3 [4.6, 5.9] (279)	5.7 [5.0, 6.7] (41)	0.01	0.001	<0.001
		Fructose-lysine ($\mu\text{mol/mol}$ lysine)	1004 [725, 1381] (279)	1113 [686, 1505] (39)	0.57	0.56	0.65
		Pentosidine (pmol/mg protein)	1.0 [0.6, 1.9] (283)	1.2 [0.8, 2.2] (42)	0.22	0.27	0.17
Neuropathy		No Neuropathy	Neuropathy				
		CML ($\mu\text{mol/mol}$ lysine)	57.1 [48.2, 68.6] (110)	60.6 [50.5, 74.5] (171)	0.05	0.44	0.55
		CEL ($\mu\text{mol/mol}$ lysine)	5.0 [4.4, 5.9] (110)	5.5 [4.7, 6.0] (171)	0.03	0.42	0.55
		Fructose-lysine ($\mu\text{mol/mol}$ lysine)	989 [700, 1313] (109)	1050 [773, 1440] (170)	0.11	0.27	0.31
		Pentosidine (pmol/mg protein)	0.8 [0.5, 1.8] (112)	1.1 [0.6, 1.9] (174)	0.08	0.45	0.39
Cardiovascular Disease		No CV Disease	+ CV Disease				
		CML ($\mu\text{mol/mol}$ lysine)	59.9 [50.3, 70.1] (157)	60.5 [50.1, 75.9] (148)	0.53	0.39	0.55
		CEL ($\mu\text{mol/mol}$ lysine)	5.1 [4.6, 5.8] (157)	5.6 [4.8, 6.4] (148)	0.005	0.03	0.04

	Fructose-lysine ($\mu\text{mol/mol lysine}$)	1004 [766, 1342] (157)	1054 [686, 1489] (146)	0.62	0.65	0.78
	Pentosidine (pmol/mg protein)	0.9 [0.6, 1.6] (159)	1.2 [0.6, 2.4] (151)	0.09	0.17	0.14

**p* value unadjusted

***p* value from logistic regression analysis adjusted for current age of subject

****p* value from logistic regression analysis adjusted for current age of subject, duration of DM, and HbA_{1c}