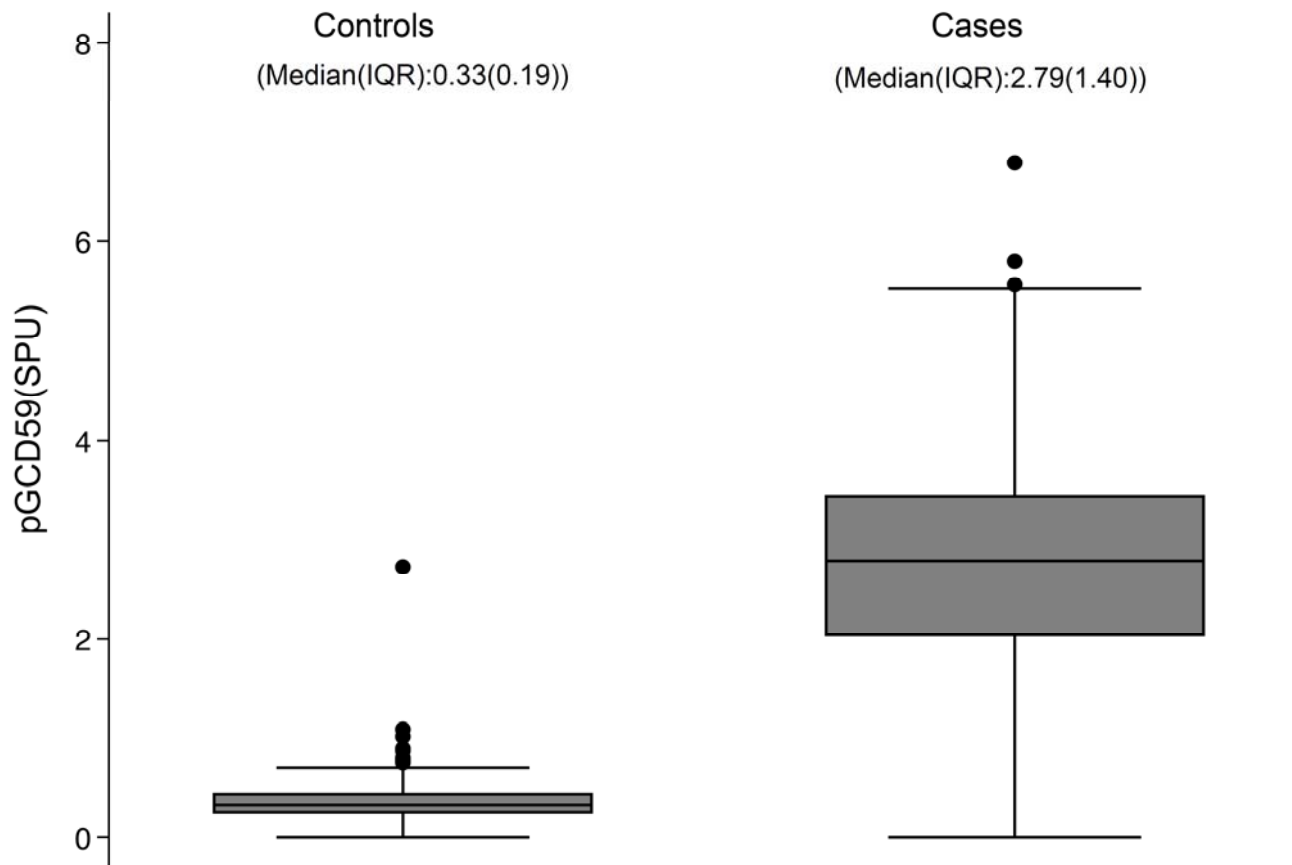


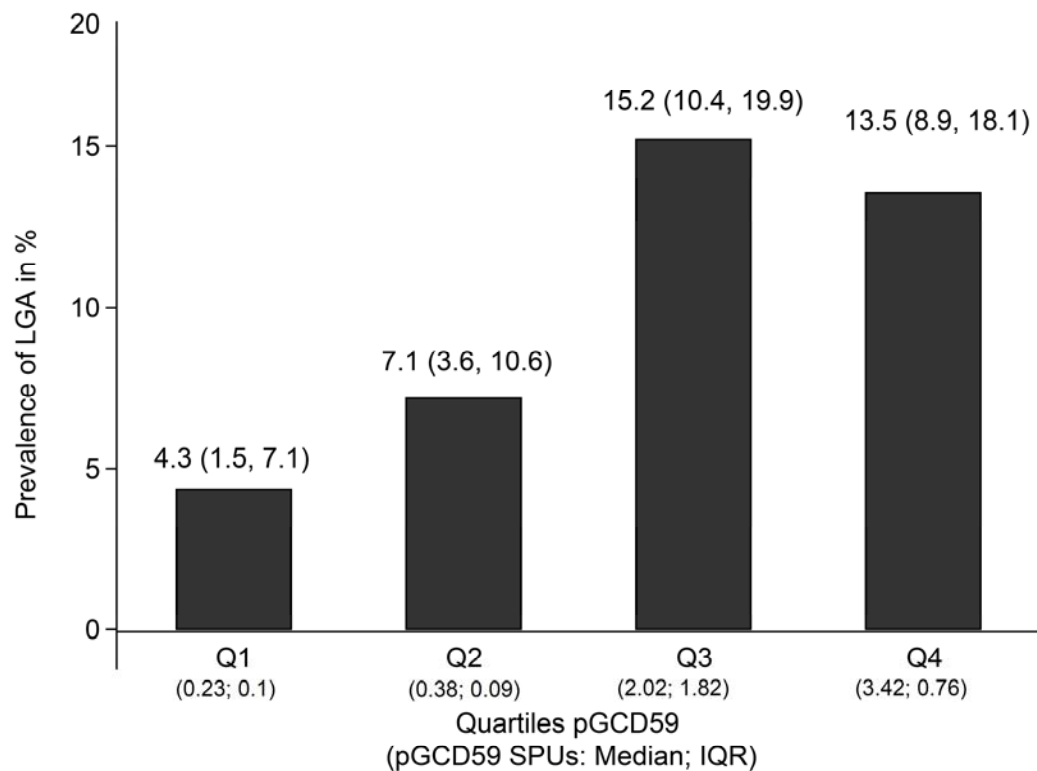
SUPPLEMENTARY DATA

**Supplementary Figure 1. Box/whisker plots showing the distribution of pGCD59 values by case-control status (n = 1000):** Median and IQR values are shown in the figure.



SUPPLEMENTARY DATA

**Supplementary Figure 2. Prevalence of LGA by quartiles of pGCD59 in the study population.** The Figure shows the prevalence of LGA with 95% confidence intervals in parenthesis in the four quartiles of pGCD59 (n= 852). The median pGCD59 values with interquartile range (IQR) are shown below each quartile.



SUPPLEMENTARY DATA

**Supplementary Table 1.** Women’s and infant’s socio-demographic and anthropometric characteristics, n= 1,000. The race/ethnicity composition of our study population closely resembles that of the United States population

	Controls, n(%)	Cases, n(%)	Cases (Failed-GLT), n(%)			p-value*
	Normal-GCT	Failed-GCT	No-GDM		GDM	
			OGTT with 0 abnormal value	OGTT with 1 abnormal value		
<b>Maternal characteristics</b>	n=500	n=500	n=273	n=100	n=127	
<b>Age in categories(yr)</b>						0.001
<20	18(3.6)	8(1.6)	5(1.8)	1(1.0)	2(1.6)	
20-29	171(34.2)	119(23.8)	66(24.2)	25(25.0)	28(22.0)	
30-34	174(34.8)	182(36.4)	106(38.8)	39(39.0)	37(29.1)	
35-39	99(19.8)	140(28.0)	73(26.8)	22(22.0)	45(35.4)	
>40	38(7.6)	51(10.2)	23(8.4)	13(13.0)	15(11.8)	
<b>Race</b>						<0.001
Asiatic	34(6.8)	55(12.6)	29(11.9)	9(10.5)	17(15.9)	
Black	56(11.3)	57(13.1)	33(13.6)	7(8.1)	17(15.9)	
Hispanic	98(19.7)	132(30.3)	73(30.4)	24(27.9)	35(32.7)	
Others	90(18.2)	3(0.7)	2(0.8)	0(0)	1(0.9)	
White	218(43.9)	189(43.3)	106(43.6)	46(54.5)	37(34.6)	
<b>BMI at first prenatal visit(kg/m<sup>2</sup>)</b>						<0.001
<19	51(10.3)	42(8.7)	32(11.9)	6(6.5)	4(3.3)	
20-24	229(46.2)	144(29.8)	98(36.6)	21(22.8)	25(20.3)	
25-29	140(28.2)	144(29.8)	66(24.6)	30(32.6)	48(39.0)	
>30	76(15.3)	153(31.7)	72(26.9)	35(38.1)	46(37.4)	
<b>Previous history of diabetes</b>						0.151
Yes	2(0.4)	6(1.2)	5(1.9)	0(0)	1(0.8)	
No	489(99.6)	480(98.8)	263(98.1)	97(100)	120(99.2)	
<b>Infant characteristics</b>						

SUPPLEMENTARY DATA

<b>Large for gestational age (singleton infants)**</b>						0.001
Yes	28(6.7)	58(13.3)	33(13.8)	12(14.2)	13(11.7)	
No	388(93.3)	378(86.7)	207(86.2)	73(85.8)	98(88.3)	
<b>Gender</b>						0.145
Male	234(52.1)	254(56.7)	142(57.3)	38(43.2)	62(55.4)	
Female	215(47.9)	194(43.3)	106(42.7)	50(56.8)	50(44.6)	
<b>Multiplicity</b>						0.052
Yes	18(3.6)	31(6.3)	14(5.2)	6(6.2)	11(8.8)	
No	477(96.4)	459(94.7)	255(94.8)	91(93.8)	113(91.1)	

\*Difference of proportions cases vs controls: Chi-square p-value

\*\*Restricted to only singleton cases and defined as a birth-weight  $\geq$ 90th percentile adjusted for gestational week at delivery and determined from the latest genderspecific reference curves derived from a large sample of infants reflecting the ethnic distribution of the US population

SUPPLEMENTARY DATA

**Supplementary Table 2.** pGCD59 median, distribution and interquartile range by case control status and OGTT sub-groups. n= 1,000

		<b>N</b>	<b>Median</b>	<b>IQR</b>	<b>p-value of trend</b>
					<0.001
<b>Controls-</b>					
Normal-GCT		500	0.33	0.19	
<b>Cases-</b>					
Failed-GCT		500	2.79	1.40	
No-GDM	OGTT with 0 abnormal value	273	2.68	1.31	
	OGTT with 1 abnormal value	100	2.77	1.27	
GDM		127	3.23	1.43	

Delta Normal-GCT vs Failed-GCT 2.46, 95%CI(2.34, 2.57) p-value <0.001

Delta Normal-GCT vs GDM 2.9 (2.72, 3.07) p-value <0.001

Delta Normal-GCT vs OGTT with 1 abnormal value 2.44 95%CI(2.22, 2.65) p-value <0.001

Delta Normal-GCT vs OGTT with 0 abnormal value 2.33 95%CI(2.2, 2.4) p-value <0.001

IQR: Interquartile Range

SUPPLEMENTARY DATA

**Supplementary Table 3.** pGCD59 decile cutoffs to predict glucose challenge test (GCT) results, n=1,000

Cutoff GD59 Deciles	Sensitivity	specificity	Correctly Classify	PPV	NPV	LR+	LR-	Youden Index
≥5	88.46%	72.20%	80.28%	76.09%	86.22%	3.18	0.16	0.61
≥6	86.03%	89.20%	87.63%	88.85%	86.46%	7.97	0.16	0.75
≥7	77.53%	99.80%	88.73%	99.74%	81.62%	387.66	0.23	0.77

**Youden index** = (sensitivity + specificity) - 1; its value ranges from 0 to 1, and has a zero value when a diagnostic test gives the same proportion of positive results for groups with and without the disease (i.e., the test is useless). A value of 1 indicates that there are no false positives or false negatives (i.e., the test is perfect).

SUPPLEMENTARY DATA

**Supplementary Table 4.** pGCD59 median and interquartile ranges by case control status and relevant covariates. n= 1,000

	Controls, n(%)	Cases, n(%)	Cases (Failed-GLT), n(%)			
	Normal- GCT	Failed-GCT	No-GDM		GDM	
			OGTT with 0 abnormal value	OGTT with 1 abnormal value		
<b>Maternal characteristics</b>	n= 500	n= 500	n=273	n= 100	n= 127	p-value*
<b>Age in categories(yr)</b>						0.025
<20	0.39 (0.19)	3.48(1.65)	3.08 (0.59)	4.56 (0.00)	4.09 (1.22)	
20-29	0.31 (0.17)	2.78(1.28)	2.74 (1.30)	2.62 (1.07)	3.23 (0.93)	
30-34	0.35 (0.18)	2.65(1.38)	2.57 (1.41)	2.61 (1.12)	3.19 (0.88)	
35-39	0.33 (0.20)	2.95(1.48)	2.76 (1.34)	3.10 (1.13)	3.22 (1.87)	
>40	0.33 (0.21)	2.74 (2.10)	2.53 (1.22)	3.02 (2.96)	3.31 (3.50)	
<b>Race</b>						<0.001

SUPPLEMENTARY DATA

Asian	0.32 (0.19)	2.77 (1.46)	2.63 (1.14)	2.95 (2.49)	3.01 (2.65)	
Black	0.29 (0.18)	3.09 (1.63)	2.95 (1.14)	1.81 (2.05)	3.54 (0.94)	
Hispanic	0.33 (0.16)	3.03 (1.04)	2.91 (1.05)	2.78 (0.98)	3.34 (0.77)	
Others	0.33 (0.20)	2.75 (3.01)	2.97 (0.43)	-	0.17 (0.00)	
White	0.34 (0.19)	2.47 (1.43)	2.23 (1.45)	2.65 (1.14)	2.68 (2.09)	
<b>BMI at first prenatal visit (kg/m<sup>2</sup>)</b>						<0.001
<19	0.28 (0.17)	2.53 (0.94)	2.56 (0.85)	1.98 (2.18)	3.26 (3.24)	
20-24	0.35 (0.20)	2.72 (1.55)	2.54 (1.44)	2.95 (1.33)	3.00 (1.66)	
25-29	0.33 (0.18)	2.92 (1.28)	2.76 (1.17)	2.78 (1.17)	3.31 (1.15)	
>30	0.32 (0.18)	2.78 (1.35)	2.73 (1.43)	2.64 (1.05)	3.22 (1.65)	
<b>Previous history of diabetes</b>						<0.001
Yes	1.48 (2.48)	3.05 (0.79)	2.92 (0.57)	-	4.00 (0.00)	
No	0.33 (0.19)	2.77 (1.40)	2.68 (1.30)	2.76 (1.24)	3.22 (1.41)	
<b>Infant characteristics</b>						
<b>Large for gestational age**</b>						<0.001
Yes	0.39 (0.21)	2.78(0.93)	2.61 (0.85)	2.73 (1.10)	3.47 (0.34)	
No	0.33 (0.19)	2.77(1.39)	2.68 (1.32)	2.73 (1.26)	3.19 (1.53)	
<b>Gender</b>						0.052
Male	0.33 (0.20)	2.85 (1.39)	2.72 (1.30)	2.94 (1.41)	3.23 (1.50)	
Female	0.33 (0.18)	2.76 (1.39)	2.61 (1.26)	2.66 (1.11)	3.21 (1.24)	
<b>Multiplicity</b>						0.007
Yes	0.33 (0.34)	3.00 (1.49)	2.59 (1.34)	3.73 (1.29)	3.30 (1.33)	
No	0.33 (0.18)	2.78 (1.38)	2.68 (1.31)	2.74 (1.24)	3.23 (1.38)	

\*Kruskal-Wallis test (complete case analysis)

\*\*Restricted to only singleton cases

IQR: Interquartile Range

Median pGCD59 differences according to maternal socio-demographic and anthropometric characteristics were assessed using non-parametric tests.