

Supplementary Table S1 Maternal characteristics and pregnancy outcomes by timing of GDM diagnosis

Variables	GDM early (n=89)	GDM late (n=138)
Maternal age (years)	33 (30-36)	33 (30-36)
Maternal weight (kg)	64.5 (58.0-76.3)	64.6 (59.6-75.2)
Maternal height (cm)	160.5 (156.0-165.0)	164 (160.0-168.0)
BMI (kg/m²)	25.1 (22.3-29.6)	24.5 (22.8-27.4)
Ethnicity (%)	#	
Caucasian	30 (33.7%)	69 (50%)
East Asian	33 (37.1%)	50 (36.2%)
South Asian	25 (28.1%)	18 (13.0%)
Other	1 (1.1%)	1 (0.8%)
Smoker (%)	0 (0%)	4 (2.9%)
Conception (%)		
Spontaneous	86 (96.6%)	129 (93.5%)
Ovulation induction	0 (0%)	0 (0%)
In vitro fertilization	3 (3.4%)	9 (6.5%)
Family history of diabetes** (%)	59 (66.3%)#	74 (53.6%)
Parity (%)		
Nulliparous	41 (46.1%)	80 (58.0%)
Parous with previous GDM	29 (32.6%)#	16 (11.6%)
Parous with no previous GDM	19 (21.3%)	42 (30.4%)
Polycystic Ovary Syndrome (%)	4 (4.5%)	7 (5.1%)
Previous Macrosomia*** (%)	8 (9.0%)	6 (4.3%)
Gestation at delivery (days)	274 (269-280)	276 (271-280)
Birthweight (grams)	3294±464	3303±440
Gender (%)	#	
Male	53 (59.6%)	63 (45.7%)

Female	36 (40.4%)	75 (54.3%)
Mode of Delivery (%)		
Normal****	59 (66.3%)	103 (74.6%)
Cesarean Section	30 (33.7%)	35 (25.4%)
Induction	43 (48.3%)	66 (47.8%)

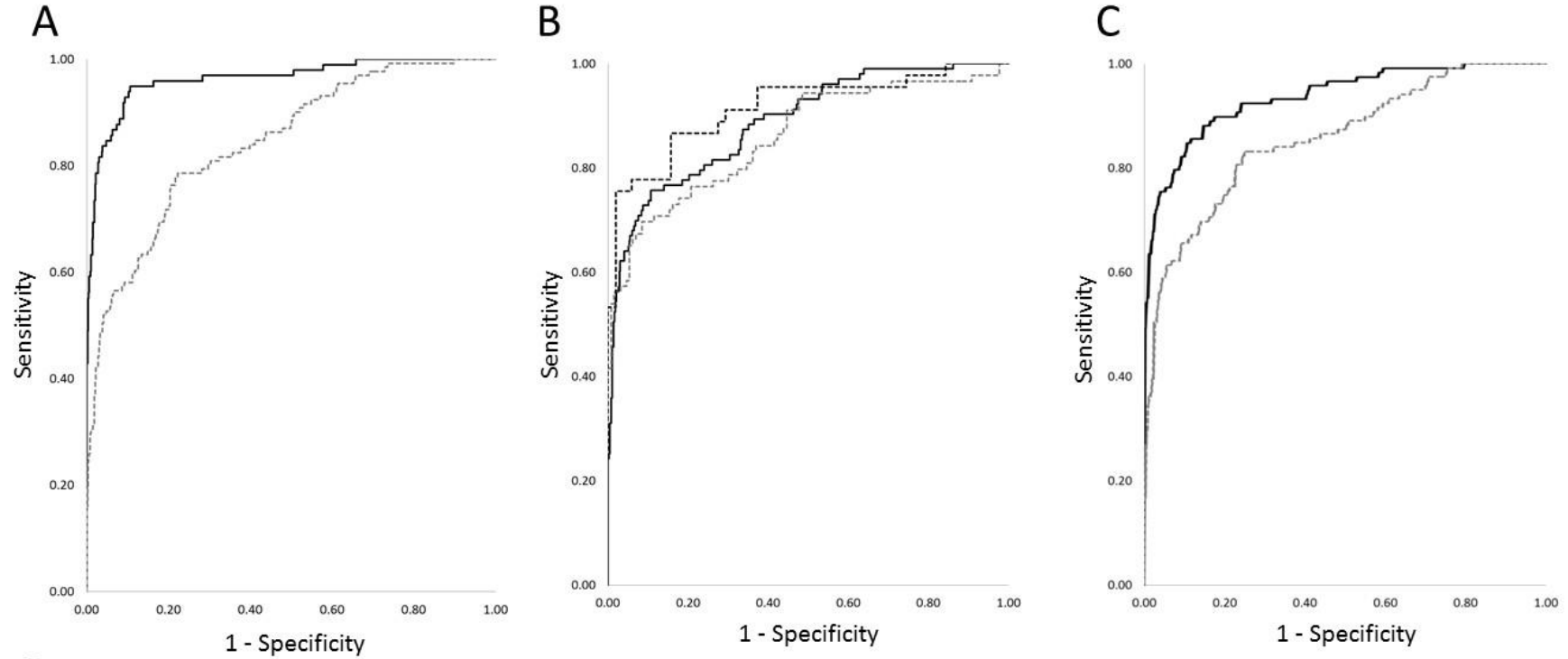
Values are presented as medians (IQR), numbers (percentages) or means (\pm SD), as appropriate. *First or second degree relative with type 2

diabetes mellitus and/or sister with GDM. **Birthweight \geq 4000 grams. ***Normal delivery: vaginal or assisted (ventouse or forceps). # p-value

< 0.05 early vs. standard GDM

Supplementary Figure S1 ROC curves of the predictive models stratified by (A) timing of GDM diagnosis (B) ethnicity (C) parity (D) summary of performance

ROC curves for our novel predictive model based on clinical parameters and first trimester markers stratified according to subgroups. A) ROC curves by time of GDM diagnosis: early (<24 weeks' gestation, black line), standard (\geq 24 weeks' gestation, grey dotted line). B) ROC curves by ethnicity: Caucasians (black line), East Asians (grey dotted line), South Asians (black dotted line). C) ROC curves by parity: nulliparous (grey dotted line), multiparous (black line). D) table with performance characteristics, AUC (95% CI) and detection rate (DR) at different fixed false positive rates (FPR). AUC comparison $p < 0.0001$ by timing of GDM diagnosis; remainder non-significant.



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Performance of multivariate model for different sub-groups	ROC AUC (CI95%)	DR at 10%/20%/40% FPR
All	0.90 (0.87-0.92)	73.8% / 82.7% / 89.9%
Early (<24wk) diagnosis	0.96 (0.94-0.98)	92.9% / 95.9% / 96.9%
Standard (≥24wk) diagnosis	0.84 (0.81-0.88)	58.0% / 71.8% / 84.0%
Caucasians	0.89 (0.85-0.93)	72.8% / 77.7% / 90.3%
East Asians	0.86 (0.81-0.91)	69.7% / 74.2% / 84.3%
South Asians	0.92 (0.86-0.98)	77.8% / 86.7% / 95.6%
Nulliparous	0.86 (0.81-0.90)	65.5% / 74.8% / 84.9%
Multiparous	0.94 (0.91-0.96)	82.2% / 89.8% / 93.2%