

Additional file:

Table S1

Comparison of indicators before and after missing data were filled in

Indicators	Before filling	After filling	t/χ^2	P
GHB	5.22 ± 0.40	5.21 ± 0.38	0.205	0.840
FPG	4.78 ± 0.54	4.78 ± 0.54	0.001	0.999
PT	10.98 ± 0.61	10.97 ± 0.61	0.118	0.906
APTT	25.50 ± 2.16	25.50 ± 2.15	0.015	0.988
TT	16.58 ± 1.40	16.58 ± 1.39	0.042	0.966
FIB	3.76 ± 1.02	3.76 ± 1.01	0.030	0.976
TBIL	9.25 ± 3.21	9.26 ± 3.20	0.103	0.918
DBIL	2.35 ± 1.05	2.35 ± 1.05	0.099	0.921
TBA	2.65 ± 2.39	2.65 ± 2.38	0.025	0.980
TSH	1.62 ± 1.94	1.61 ± 1.81	0.063	0.950
FT3	4.44 ± 0.98	4.44 ± 0.92	0.028	0.978
FT4	15.97 ± 3.21	15.97 ± 3.21	0.195	0.845

Note: GHB = glycated hemoglobin, FPG = fasting plasm glucose, PT = prothrombin time, APPT = activated partial prothrombin time, TT = thrombin time, FIB = fibrinogen, TBIL = total bilirubin, DBIL = direct bilirubin, TBA = , TSH = thyroid-stimulating hormone, FT3= Free triiodo-thyroid, FT4 = free thyroid

Table S2

Assignment of codes for each variable

Variable	Variable coding	Type of variable
GDM	0 = absent, 1 = present	Binary variable

BMI before pregnancy	1 = lean, 2 = normal 3 = overweight, 4 = fat	Rank variable
Pregnancy	1 = one, 2 = two, 3 = $\geq$ three	Rank variable
Parity	0 = zero, 1 = one, 2 = $\geq$ two	Rank variable
Number of abortions/miscarriages	0 = zero, 1 = one, 2 = $\geq$ two	Rank variable
Number of ectopic pregnancies	0 = zero, 1 = $\geq$ one	Binary variable
History of macrosomia	0 = no, 1 = yes	Binary variable
Incidence of hypertensive disorders in pregnancy	0 = no, 1 = yes	Binary variable
Incidence of embryo transfer	0 = no, 1 = yes	Binary variable
Incidence of twin pregnancy	0 = no, 1 = yes	Binary variable
UGlu	0 = “-” or “trace”, 1 = “+~+++”	Binary variable
KET	0 = “-” or “trace”, 1 = “+~+++”	Binary variable
UPro	0 = “-” or “trace”, 1 = “+~+++”	Binary variable
GHB	0 = $\leq$ 5.2%, 1 = $>$ 5.2%	Binary variable

Table S3

Backpropagation neural network and hyperparameters	
Model hyperparameters	
Number of neurons in the output layer	25
Number of hidden layers	1
Hidden layer neurons	18
Hidden layer activation function	relu function
Output layer activation function	sigmoid function
Loss function	cross entropy
Optimizer	Adam
Learning rate	0.001

Small batch data size	32
Number of iterations	200

Table S4
Different mtry values and out-of-bag prediction error values

mtry	1	2	3	4	5	6	7	8	9	10
OOB	26.7%	24.4%	23.6%	23.6%	23.7%	23.6%	23.1%	23.7%	24.3%	23.8%