

Table S1 The use of drugs in T2DM group and DPN group in two cohorts.

Drugs	Training cohort			Validation cohort		
	DPN	T2DM	P-value	DPN	T2DM	<i>P</i> value
Metformin, n (%)	78 (92.86)	72 (87.80)	0.270	98 (87.50)	76 (81.72)	0.250
Acarbose, n (%)	65 (77.38)	60 (73.17)	0.529	100 (89.29)	84 (90.32)	0.807
Dapagliflozin, n (%)	8 (9.52)	10 (12.20)	0.580	22 (19.64)	16 (17.20)	0.655
Glimepiride, n (%)	15 (17.86)	14 (17.07)	0.894	30 (26.79)	25 (26.88)	0.988
Repaglinide, n (%)	10 (11.90)	13 (15.85)	0.462	22 (19.64)	18 (19.35)	0.959
Sitagliptin, n (%)	42 (50.00)	38 (46.34)	0.637	74 (66.07)	68 (73.12)	0.276
Pioglitazone, n (%)	26 (30.95)	18 (21.95)	0.189	33 (29.46)	30 (32.26)	0.666
Insulin, n (%)	12 (14.29)	16 (19.51)	0.369	30 (26.79)	28 (30.11)	0.599
CCB, n (%)	20 (23.81)	16 (19.51)	0.502	24 (21.43)	20 (21.51)	0.989
ACEI, n (%)	16 (19.05)	13 (15.85)	0.588	18 (16.07)	14 (15.05)	0.842
ARB, n (%)	30 (35.71)	24 (29.27)	0.375	42 (37.50)	38 (40.86)	0.623
Diuretics, n (%)	10 (11.90)	8 (9.76)	0.618	16 (14.29)	10 (10.75)	0.449
Beta blockers, n (%)	12 (14.29)	9 (10.98)	0.521	16 (14.29)	12 (12.90)	0.774

Categorical variables were analyzed by Chi-square test and expressed as count (percentage).

CCB, calcium channel blockers; ACEI, angiotensin converting enzyme inhibitor; ARB, Angiotensin II Receptor Blockers.

Table S2 The changes of 13 DPN patients' serum amino acids after treatment.

Amino acids ($\mu\text{mol/L}$)	Before (n=13)	After (n=13)	<i>P</i> value
Glycine	223.85 $\pm$ 52.12	236.78 $\pm$ 32.64	0.466
Serine	116.94 $\pm$ 32.64	131.52 $\pm$ 17.13	0.16
Asparagine	52.15 $\pm$ 11.28	54.36 $\pm$ 11.46	0.659
Arginine	22.14 $\pm$ 4.27	27.74 $\pm$ 4.56	< 0.001
Alanine	450.12 $\pm$ 107.14	391.96 $\pm$ 76.51	0.131
Homoproline	28.60 $\pm$ 10.10	30.78 $\pm$ 9.95	0.536
Proline	206.34 $\pm$ 62.91	262.21 $\pm$ 82.88	0.089
Valine	296.13 $\pm$ 112.84	261.09 $\pm$ 100.24	0.321
Methionine	23.15 $\pm$ 9.64	31.14 $\pm$ 9.20	0.065
Tyrosine	65.04 $\pm$ 22.91	73.93 $\pm$ 20.95	0.017
Phenylalanine	69.73 $\pm$ 15.58	71.34 $\pm$ 13.74	0.751
Isoleucine	91.59 $\pm$ 20.91	94.62 $\pm$ 21.39	0.733
Leucine	151.28 $\pm$ 23.15	153.46 $\pm$ 38.35	0.868
Hydroxyproline	18.56 $\pm$ 5.84	20.27 $\pm$ 6.46	0.189
Threonine	131.88 $\pm$ 42.10	144.77 $\pm$ 37.30	0.34
Tryptophane	68.45 $\pm$ 32.31	71.69 $\pm$ 26.84	0.749
Glutamic acid	191.97 $\pm$ 42.11	183.55 $\pm$ 42.98	0.654
Aspartic acid	13.82 $\pm$ 3.90	10.36 $\pm$ 3.22	0.046
Histidine	94.29 $\pm$ 14.86	92.31 $\pm$ 10.13	0.675
Lysine	175.16 $\pm$ 44.39	199.98 $\pm$ 56.08	0.351

Data are presented as mean $\pm$ standard deviation by using paired samples *t*-test analysis.

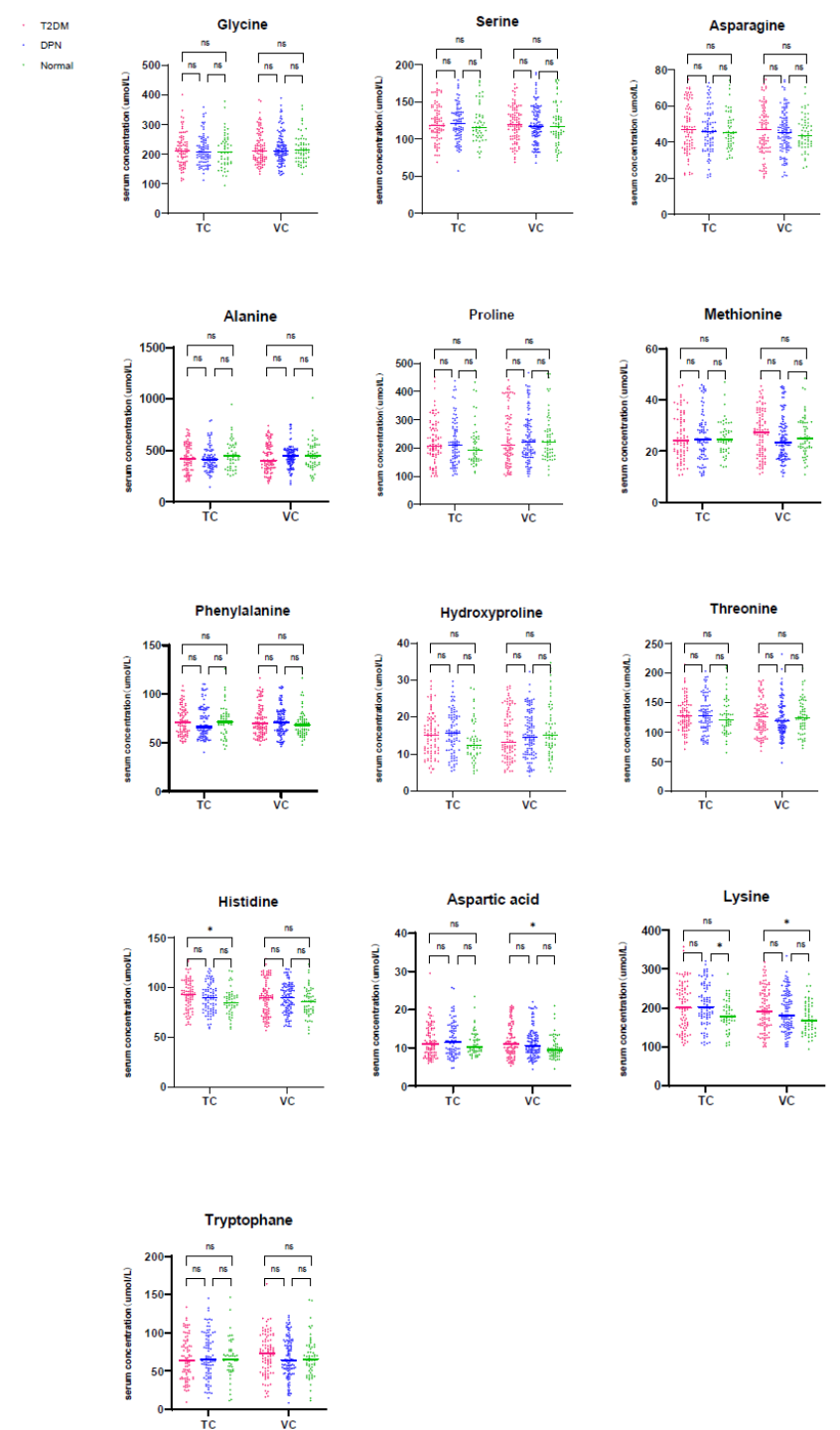


Figure S1 Scatter plots of serum relative concentration levels of amino acids among DPN patients, T2DM patients and normal participants in the training cohort (TC) and validation cohort (VC). *: $P < 0.05$ (One-way ANOVA).

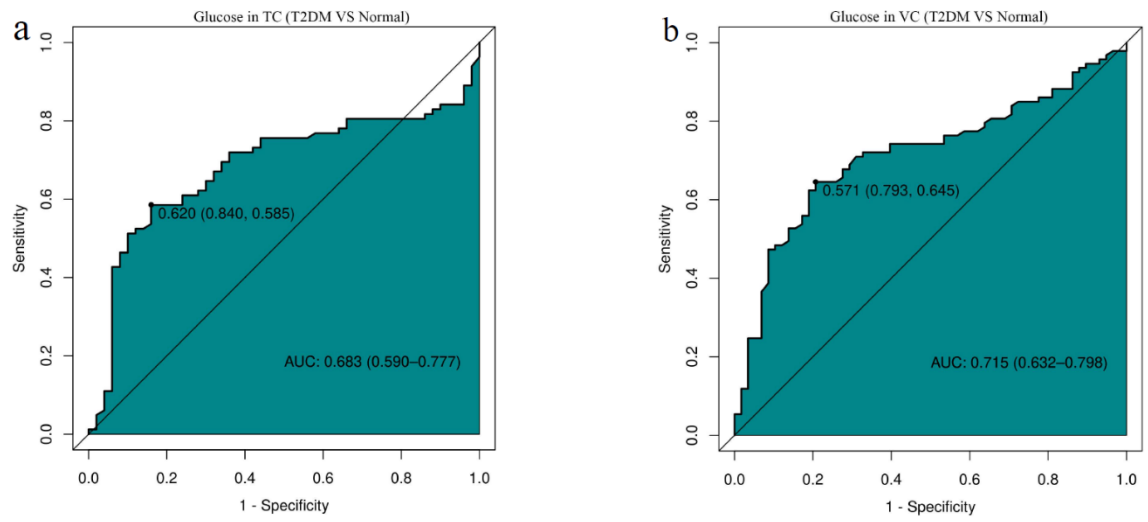


Figure S2 Performance of the prediction model for discriminating T2DM from Normal with fasting blood glucose.